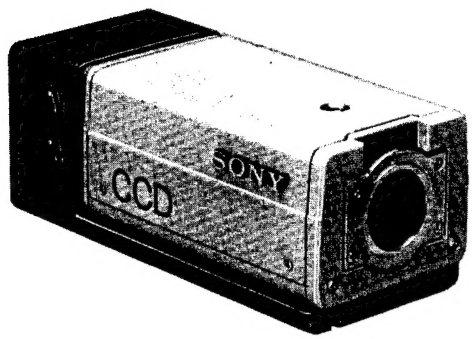
COLOR VIDEO CAMERA
AUTO IRIS LENS

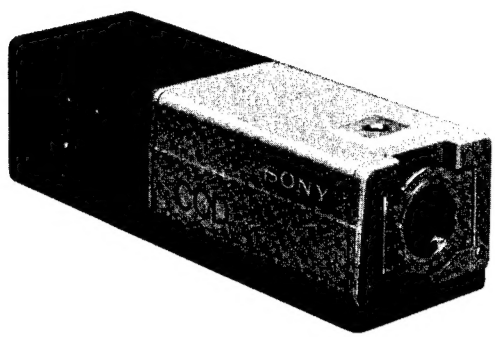
DXC-101/102
VCL-08Y/16Y

Revised-1

DXC-101



DXC-102



SONY®
SERVICE MANUAL

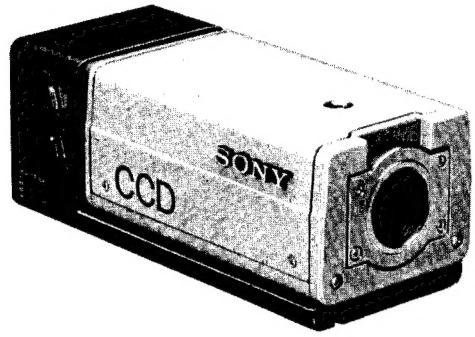
WARNING

To prevent fire or shock hazard, do not expose the set to rain or moisture.

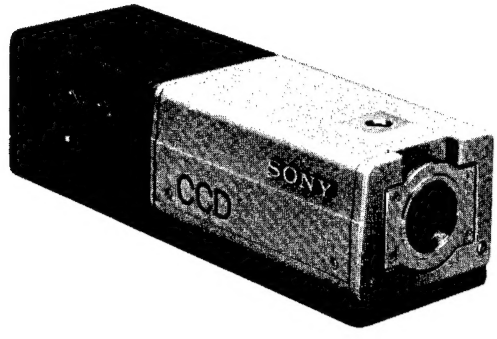
COLOR VIDEO CAMERA HEAD

DXC-101/102

DXC-101



DXC-102



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SPECIFICATIONS

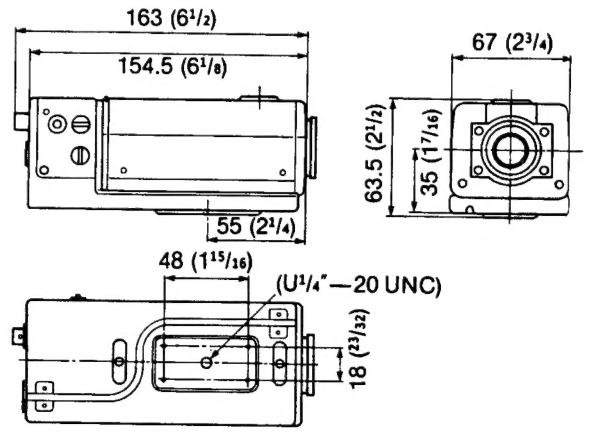
Pickup device Interline-transfer CCD, 1-chip
Picture elements
500 × 582 (horizontal/vertical)
Sensing area 8.8 mm × 6.6 mm
(equivalent to 2/3-inch pickup tube)
Lens mount C mount
Signal system EIA standards, NTSC color system
Scanning system
525 lines, 2:1 interlace, 30 frames/sec.
Scanning frequency
Horizontal : 15.734 kHz
Vertical : 59.94 Hz
Sync system
DXC-101 : Internal
DXC-102 : Internal
External with the VBS or BS signal
Resolution Horizontal : 320 lines
Vertical : 350 lines
Minimum illumination
30 lux (F1.4 at +12 dB gain setup)
Sensitivity 2,000 lux, F4.0 (3,200°K)
Gain selection AUTO, 0dB, 6dB or 12dB
Video output 1.0 V (p-p), sync negative, 75 ohms, unbalanced
Video signal-to-noise ratio
More than 48 dB
(Gamma : OFF, Detail : OFF)
Input/output connectors
DXC-101: VIDEO OUT : BNC type
LENS : 4-pin connector
DC IN : 12-pin connector
DXC-102: DC IN/VIDEO OUT : BNC type
LENS : 4-pin
REMOTE : BNC type
GEN LOCK IN : BNC type
Power requirements
DXC-101 : 10.5 to 16.0 V DC
DXC-102 : 25 to 28 V DC

Power consumption
DXC-101: 4.2 W
DXC-102: 7.6 W
Operating temperature
0°C to 40°C (32°F to 104°F)
Storage temperature
−40°C to +60°C (−40°F to +140°F)
Operating humidity
Less than 70 %
Storage humidity
Less than 90 %
Vibration resistance
Less than 7 G (11 to 200 Hz)
Shock resistance
Less than 70 G
Weight
DXC-101: Approx. 550 g (1 lb 3 oz)
DXC-102: Approx. 800 g (1 lb 12 oz)

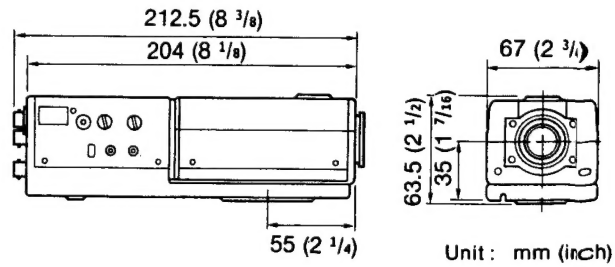
Dimensions

[DXC-101]

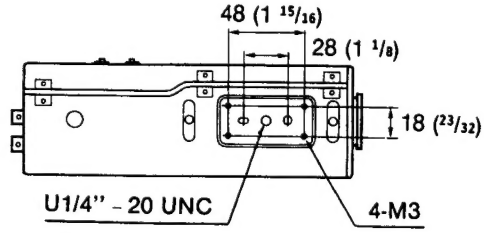
Unit : mm (inch)



[DXC-102]



Unit : mm (inch)



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6. SCHEMATIC AND MOUNTING DIAGRAM

7. SEMICONDUCTOR PIN ASSIGNMENTS

8. SPARE PARTS

SECTION 1
GENERAL DESCRIPTION

1-1. DXC-101/101P GENERAL DESCRIPTION

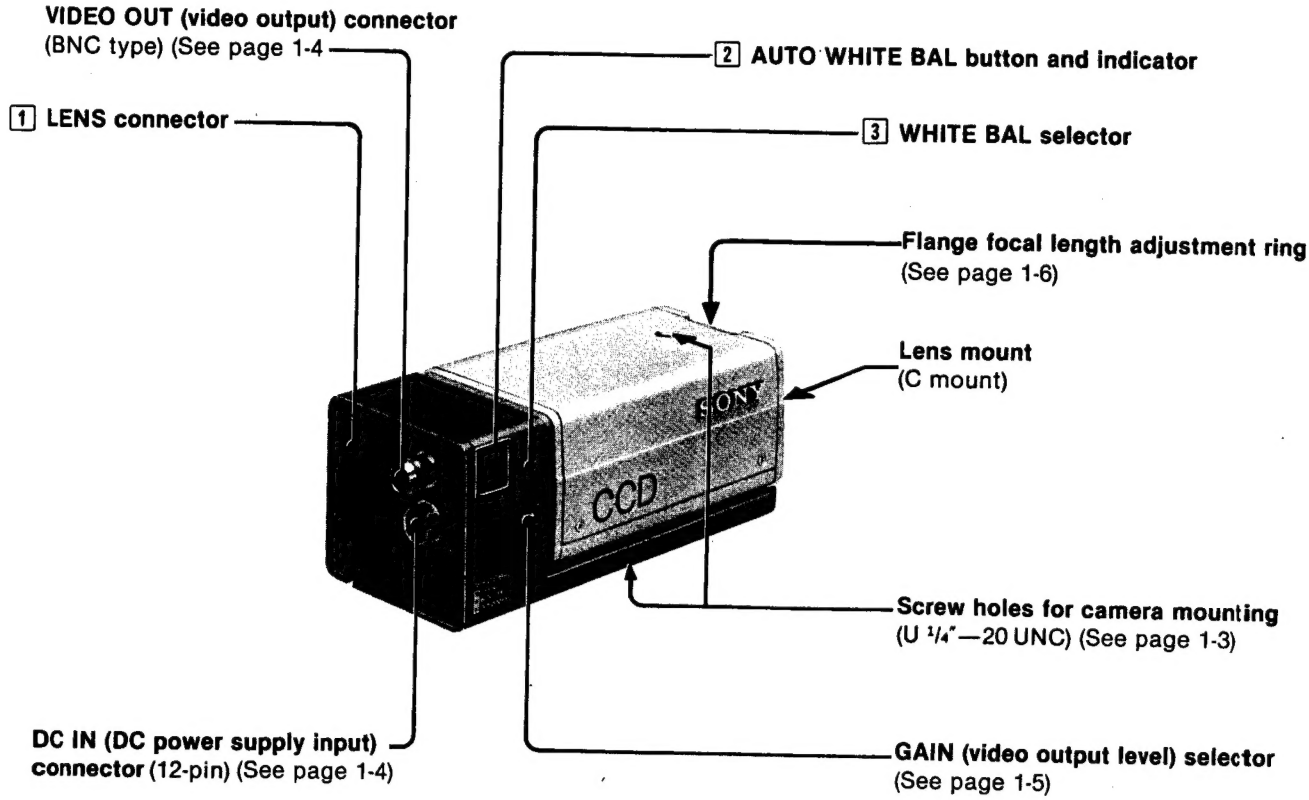
1-1-1. GENERAL FEATURES

The DXC-101/101P color video camera, designed for monitoring and surveillance, features a 1-chip CCD (Charge Coupled Device) which affords small size, light weight, and low power consumption. This CCD improves highlight after-images and color reproduction, eliminates highlight burn-in and picture distortion, and resists vibration and shock.

The camera lens mount is a C mount. Auto iris lenses such as the VCL-08Y and the VCL-16Y (optional) are available.

To use this camera for monitoring, connect a video monitor and the CMA-D1/D1CE camera adaptor (optional) to the camera. The camera can be installed on a wall or ceiling with a mounting bracket.

1-1-2. LOCATION AND FUNCTION OF PARTS



[1] LENS connector (4-pin)
This connector is used when the VCL-08Y or VCL-16Y auto iris lens is used, to control the iris of the lens automatically.

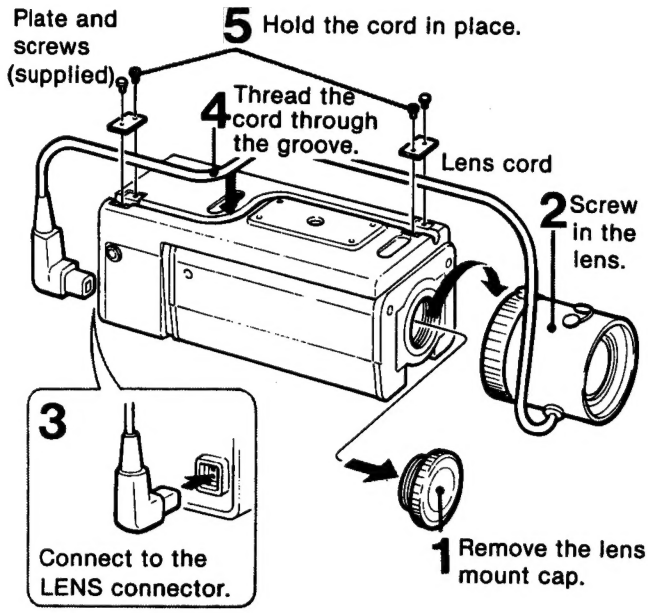
[2] AUTO WHITE BAL (automatic white balance adjustment) button and indicator (green)
Press this button to adjust the white balance automatically.
When the adjustment is completed, the indicator lights up for a few seconds.

[3] WHITE BAL (white balance adjustment) selector
AUTO: Set to AUTO to adjust the white balance automatically.
1, 2 or 3: Set to 1, 2 or 3 to adjust the white balance to one of the factory-preset values.
For details, refer to "WHITE BALANCE ADJUSTMENT" on page 1-5.

1-1-3. INSTALLATION

•LENS MOUNTING

Mount the lens according to the following procedure from 1 to 5.

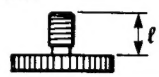


To change the lens mounting position, refer to the instruction manual of the lens.

•CAMERA INSTALLATION

To install the camera on a wall or ceiling, use a screw which matches the screw hole in the camera (U1/4" — 20 UNC), and attach the camera to a support or to a mounting bracket with the screw.

Be sure to use the screw specified below.
ISO standard: ℓ = 4.5 mm ± 0.2 mm
ASA standard: ℓ = 0.197 inches

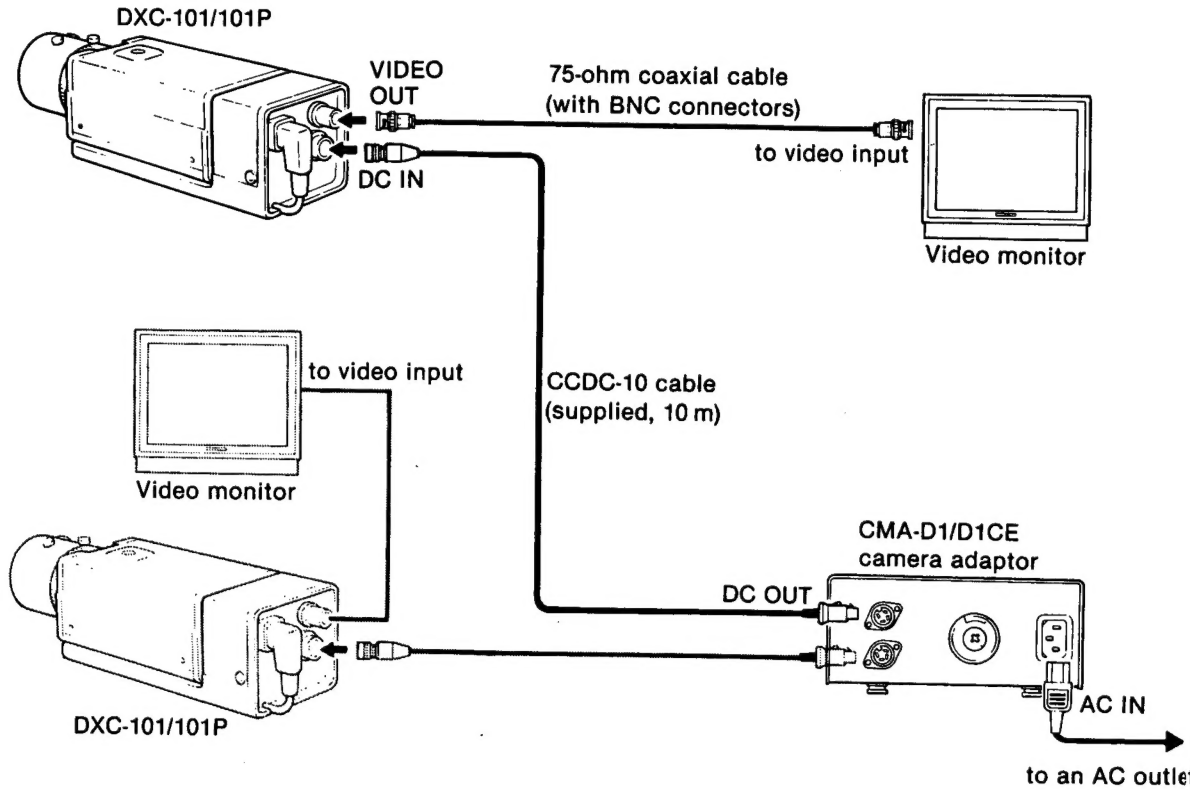


Caution on installation

Do not install the camera in a place as follows:

- Extremely hot or cold places (operating temperature: 0°C to 40°C or 32°F to 104°F).
- Where it is exposed to rain, high humidity or dust.
- Where it is subjected to very high vibration.
- Place near a TV or radio station which radiates high power radio waves.

1-1-4. CONNECTIONS



1-1-5. OPERATION

1) PREPARATION

- Check that all the units are connected properly.
- Set the POWER switch of the CMA-D1/D1CE to ON to turn on the camera.
- Turn on the video monitor, and adjust its controls properly.
- Set the GAIN selector of the camera to 0 dB.
- Illuminate the object properly.
- When a manual iris control lens is used, adjust the iris depending on the lighting conditions.

2) WHITE BALANCE ADJUSTMENT (for lifelike color reproduction)

There are two ways to adjust the white balance as described below.

To adjust the white balance to the factory-preset values
Select the position of the WHITE BAL selector depending on the lighting conditions.

Selector position	Label indication	Lighting conditions
1	3200°K (color temperature)	Iodine lamp, sunrise, sunset
2	INDOORS	Fluorescent light
3	OUTDOORS	Under a clear sky

For better color setup according to lighting conditions (Automatic white balance adjustment)
Perform the procedure described below.

1 Set the WHITE BAL selector to AUTO.
2 Shoot a white object (a white cloth or a white wall) with the camera so that the white object fills the screen.
3 Press the AUTO WHITE BAL button. When the automatic white balance adjustment is completed, the indicator lights up for a few seconds.

The white balance adjustment function may not operate in the following lighting conditions:
If the lighting is insufficient, the AUTO WHITE BAL indicator will not light up. This signifies that the white balance cannot be adjusted properly.
If the lighting is excessive, the AUTO WHITE BAL indicator will light up, even if the white balance cannot be adjusted properly. In this case, the entire monitor screen turns greenish to indicate that the white balance adjustment cannot be made properly.
In both cases, try to adjust the white balance again as follows.

When an auto iris lens is used:
When the lighting is insufficient, the white balance cannot be adjusted properly. Increase the lighting and press the AUTO WHITE BAL button again.

When a manual iris lens is used:
When the lighting is insufficient or excessive, the white balance cannot be adjusted properly. When the lighting is insufficient, open the iris or increase the lighting; when the lighting is excessive, stop down the lens. Then press the AUTO WHITE BAL button again.

Memory of the automatic white balance adjustment value
In the DXC-101/101P, a built-in memory stores the adjusted white balance value. The memorized value will be retained for about 24 hours after the power is turned off without any further power supply to the camera or until the adjustment is made again.

3) VIDEO OUTPUT LEVEL SELECTION

The video output level can be adjusted with the GAIN selector.

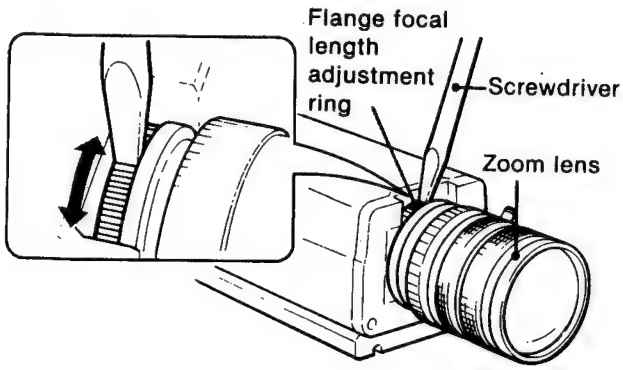
AUTO: Set the selector to this position when the brightness of objects changes as in conditions outdoors. The video output level is automatically adjusted according to the brightness of the objects.
0 dB: The selector is usually set to this position.
6 or 12 dB: The video output level can be raised by 6 dB or by 12 dB depending on the position of the selector. When the lighting is insufficient and the picture observed on the monitor is too dim, set the selector to one of these positions.

After these adjustments (white balance and video output level) are completed, shoot an object with the camera and observe the picture on the monitor screen. Then, adjust the lens focus. Once these adjustments have been completed, no further adjustments will be necessary provided that both the lighting and the distance to the object do not change. To monitor the picture again after the camera and other units have been turned off, just turn on the camera adaptor and the monitor.

1-1-6. FLANGE FOCAL LENGTH ADJUSTMENT

When a zoom lens is used with this camera, flange focal length adjustment may be required. The proper flange focal length adjustment insures that the object is in focus both at the wide-angle position and at the telephoto position when zooming. Once the flange focal length adjustment has been made, readjustment is not necessary as long as the lens stays mounted on the same camera.
Focus on an object with fine detail to adjust the flange focal length.

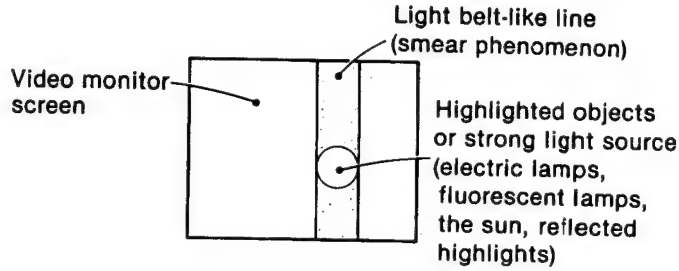
1 **When a manual iris lens is used,** set the iris fully open.
When an auto iris lens is used, illuminate an object so that the iris is fully open.
2 Point the camera at an object about 3 meters (10 feet) from the camera.
3 Set the zoom to the telephoto position.
4 Turn the focus ring to adjust the focus.
5 Set the zoom to the wide-angle position.
6 Turn the flange focal length adjustment ring of the camera until the same object is in focus. Do not turn the focus ring.



7 Repeat steps 3 to 6 until the object is in focus while the zoom is in both the telephoto position and the wide-angle position.

1-1-7. SPECIFIC EFFETS CAUSED BY CCD

Smear in picture
This may appear when a highlighted object is shot.

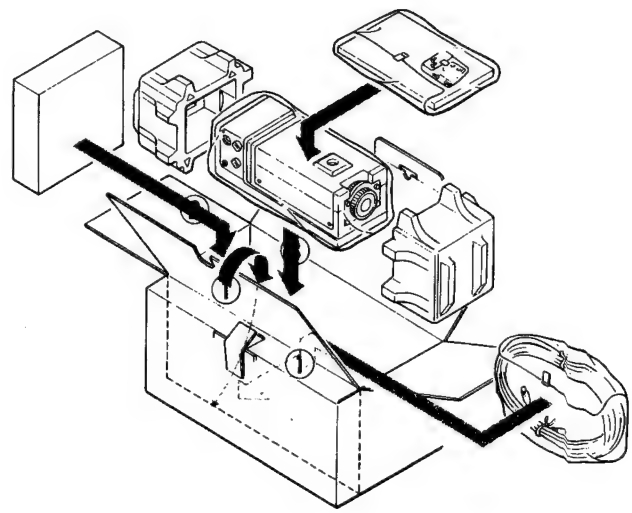


Patterned noise in picture
When the camera is used at a high temperature, a fixed patterned noise may appear on the entire screen of the monitor.

Gear-tooth effect in picture
When vertical stripes or straight lines are shot, they may look wavy.

1-1-8. REPACKING FOR SHIPMENT

The repacking procedure is subject to change. Refer to the packing instructions on the original carton, as well as those shown here.



1-2. DXC-102/102P GENERAL DESCRIPTION

1-2-1. OUTLINE

The DXC-102/102P color video camera, designed for monitoring and surveillance, features a 1-chip CCD (Charge Coupled Device) which allows the camera to be small and lightweight and have a low power consumption. This CCD reduces highlight after-images, eliminates highlight burn-in and picture distortion, improves color reproduction, and resists vibration and shock.

The camera lens mount is a C mount.

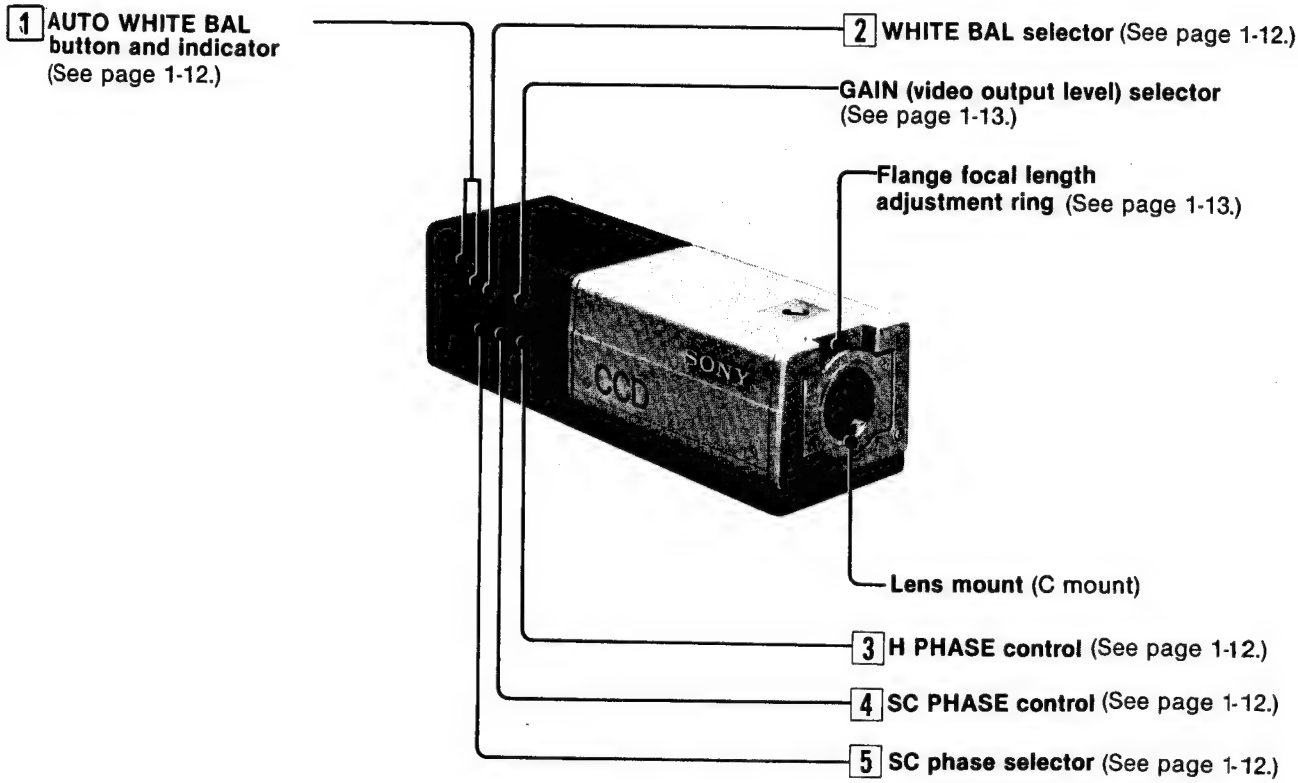
Auto iris lenses such as the VCL-08Y and the VCL-16Y (optional) are available from your authorized Sony dealer.

To use this camera for monitoring, connect a video monitor and a CMA-10/10CE camera adaptor (optional) to the camera.

The camera can be synchronized to a reference signal (VBS or BS) supplied to the camera.

The camera can be installed on a wall or ceiling with a mounting bracket.

1-2-2. LOCATION AND FUNCTION OF CONTROLS



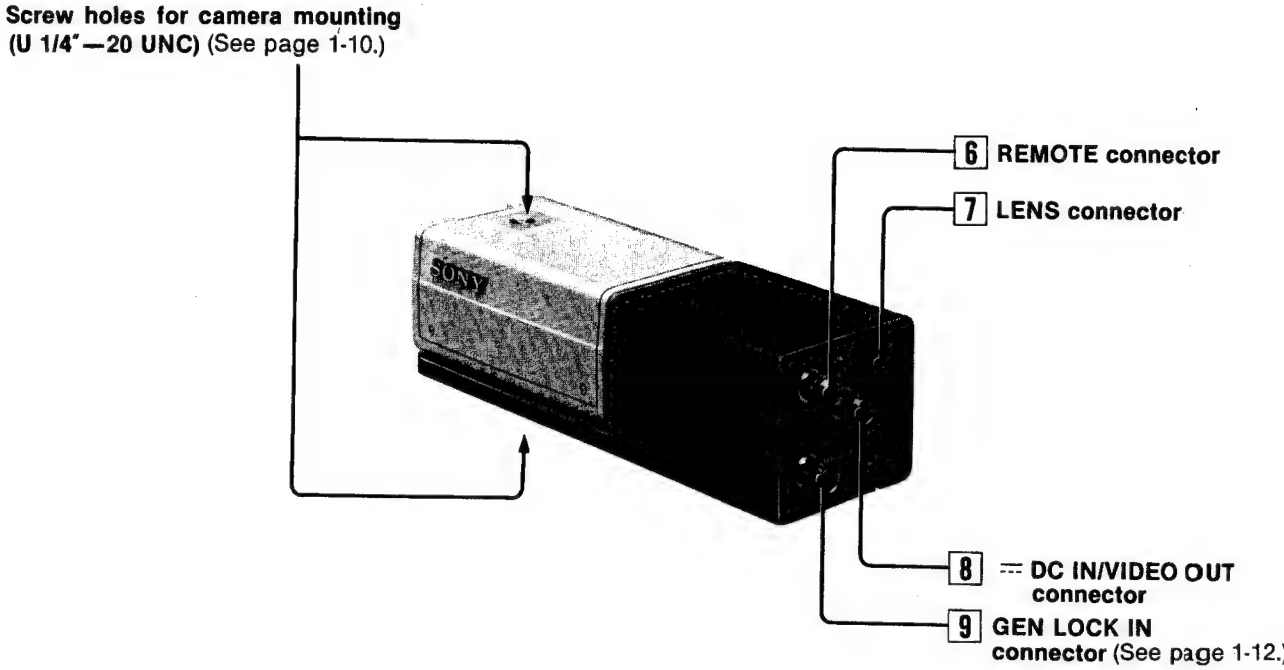
1 AUTO WHITE BAL (automatic white balance) button and indicator (green)
When the WHITE BAL selector is set to AUTO, press this button to adjust the white balance automatically. When the adjustment is completed, the indicator lights up for a few seconds.

2 WHITE BAL (white balance adjustment) selector
AUTO: Set to AUTO to adjust the white balance automatically.
1, 2 or 3: Set to 1, 2 or 3 to adjust the white balance to one of the factory-preset values.

3 H (horizontal) PHASE control
When two or more cameras are used, turn this control with a small screwdriver to adjust the H phase difference between the gen-lock input and video output signals.

4 SC (subcarrier) PHASE control
When two or more cameras are used, this control is used for fine adjustment of the subcarrier phase after making the rough adjustment with the SC phase selector 5.

5 SC (subcarrier) phase selector
When two or more cameras are used, set this selector so that the SC phase difference between the gen-lock input and video output signals to 0° or 180°



6 REMOTE (remote control) connector (BNC type)
Connect to the REMOTE connector of a CMA-10/10CE camera AC adaptor (optional), so that the white balance and the pedestal level can be adjusted by the camera AC adaptor. For details on the pedestal level adjustment, refer to the CMA-10/10CE's instruction manual.

Notes

- When the camera's REMOTE connector is connected to the CMA-10/10CE's REMOTE connector, the white balance adjustment cannot be made by the camera.
- If you wish to cancel the white balance control by the camera AC adaptor and to adjust the white balance by the camera, first turn off the camera AC adaptor, then, disconnect the cable connecting the REMOTE connectors.
  If the connecting cable is disconnected with the camera AC adaptor powered, the camera's white balance adjustment function will be inoperative. In this case, first turn off the camera AC adaptor, and after a few seconds, turn on the adaptor once again, so that the adjustment function will be operative.

7 LENS connector (4-pin)
Connect the lens connector plug of the VCL-08Y or VCL-16Y auto iris lens (optional) here. For details about the lens, refer to the lens' instruction manual.

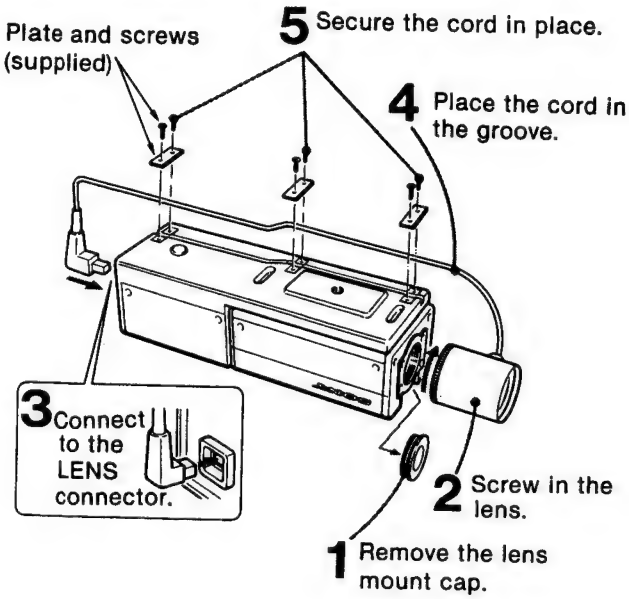
8 ⎓ DC IN (input) / VIDEO OUT (output) connector (BNC type)
Connect the ⎓ DC OUT/VIDEO IN connector of the CMA-10/10CE camera AC adaptor (optional) here. Through a single coaxial cable, the power is supplied to the camera and the video output signals from the camera are transmitted to the camera AC adaptor.

9 GEN LOCK IN (input) connector (BNC type)
Connect the gen-lock input signal (VBS or BS) for synchronization. No connection is necessary when only one camera is used.

1-2-3. INSTALLATION

•LENS ATTACHMENT

Mount the lens following Steps 1 to 5 in order.

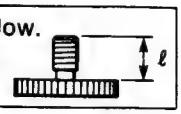


To change the position of the mounted lens, refer to the lens' instruction manual.

•CAMERA INSTALLATION

To install the camera on a wall or ceiling, attach the camera to a support or to a mounting bracket by using a screw which matches the screw holes in the camera (U 1/4"—20 UNC).

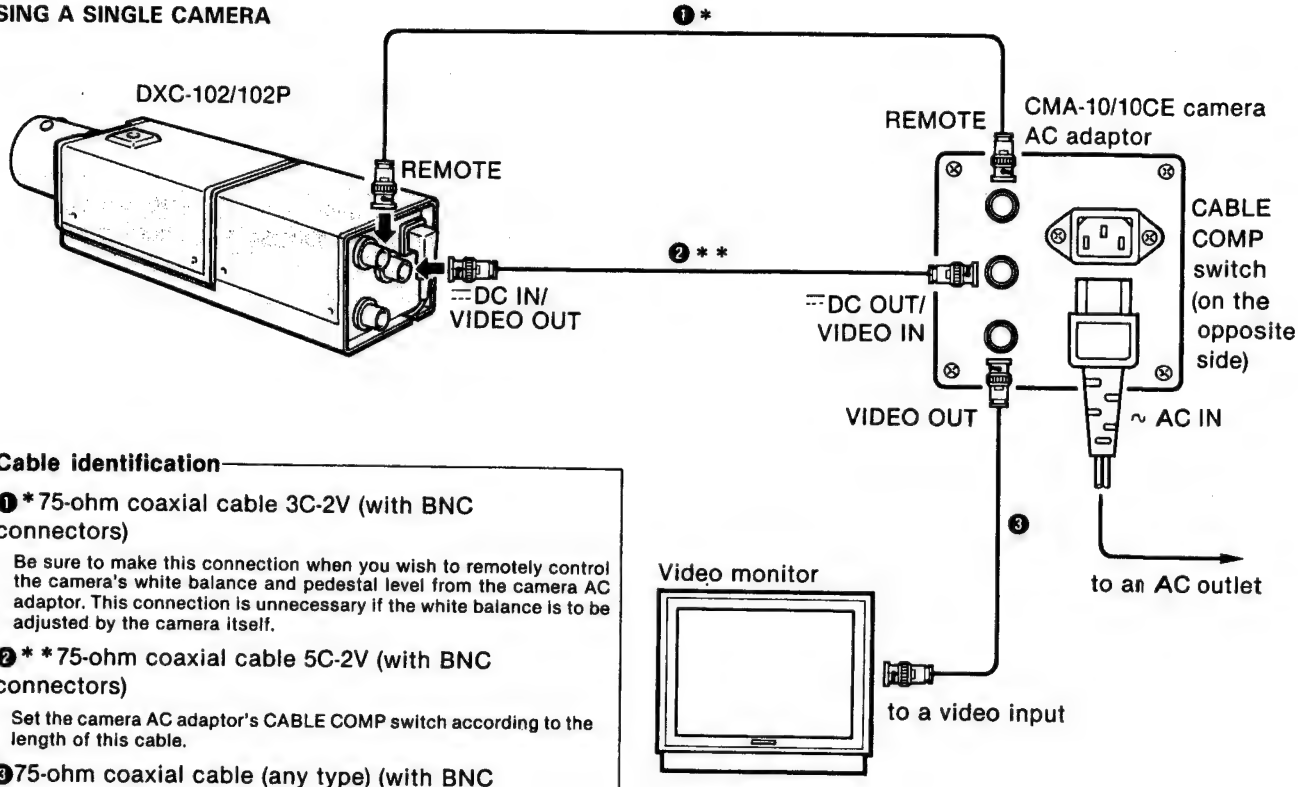
Be sure to use the screw specified below.
ISO standard: ℓ = 4.5 mm ± 0.2 mm
ASA standard: ℓ = 0.197 inches



Caution on installation
Do not install the camera in:
- An extremely hot or cold location. (Operating temperature: 0°C to 40°C or 32°F to 104°F)
- A location exposed to rain, high humidity or dust.
- A location subject to strong vibrations. (Resistance to vibration: 7G. Resistance to shock: 70G)
- A location near TV or radio station which radiates strong signals.

1-2-4. CONNECTIONS

•USING A SINGLE CAMERA



Cable identification

❶*75-ohm coaxial cable 3C-2V (with BNC connectors)

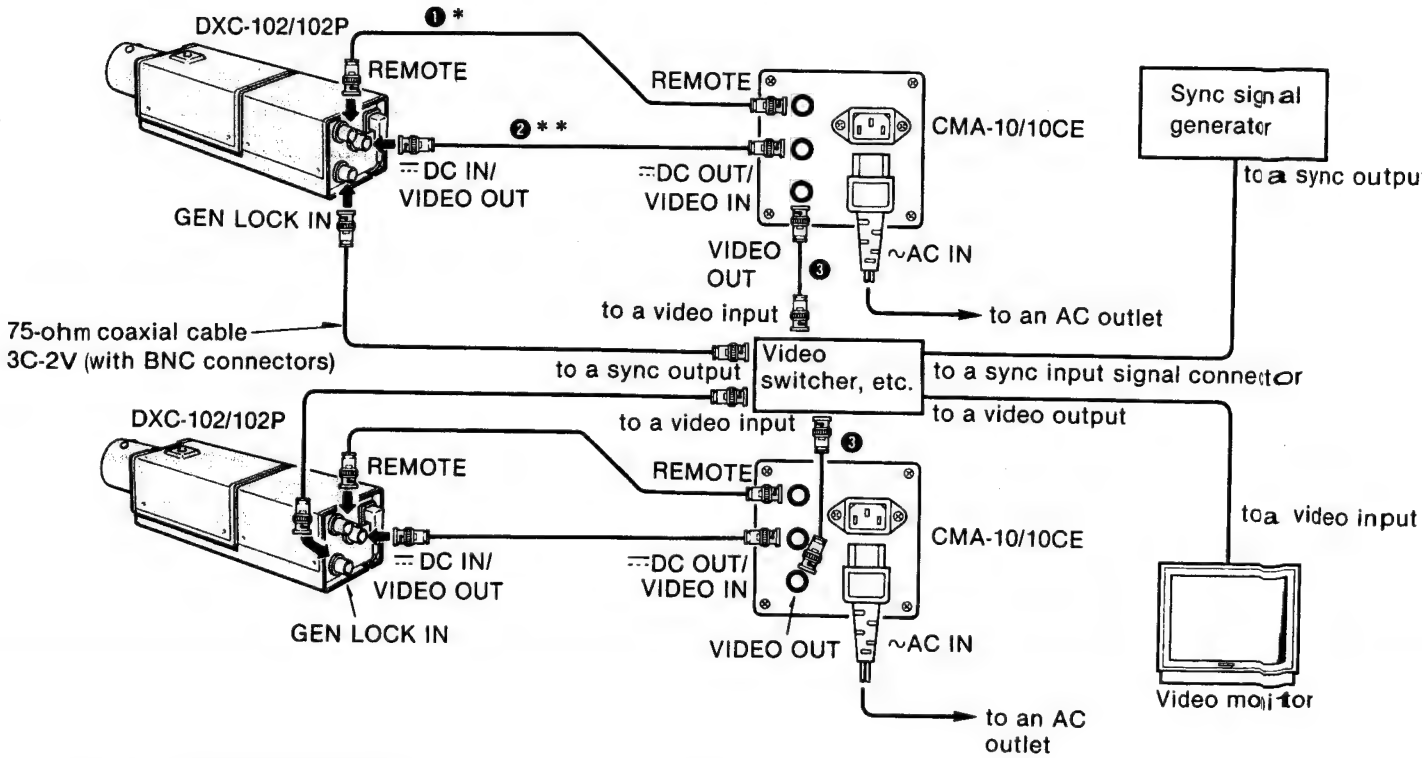
Be sure to make this connection when you wish to remotely control the camera's white balance and pedestal level from the camera AC adaptor. This connection is unnecessary if the white balance is to be adjusted by the camera itself.

❷**75-ohm coaxial cable 5C-2V (with BNC connectors)

Set the camera AC adaptor's CABLE COMP switch according to the length of this cable.

❸75-ohm coaxial cable (any type) (with BNC connectors)

•USING TWO OR MORE CAMERAS



Use of the GEN LOCK IN connector
When two or more cameras are to be used in connection with a video switcher, a special-effects generator or a similar equipment, etc., and each camera picture selected by the switcher is to be observed on the same video monitor, supply each camera with the same reference signal to obtain the same picture tone.
Connect a sync signal generator to the GEN LOCK IN connector to supply a reference signal (VBS or BS) to each camera, so that all the cameras are synchronized to this signal.

Adjustment of the picture tone for two or more cameras
When two or more cameras are used in connection with a video switcher, a special-effects generator or a similar equipment, supply each camera with a reference signal and adjust each camera to obtain the same picture tone. Adjust the SC (subcarrier) phase and the H (horizontal) phase following the procedure described below.

Subcarrier phase adjustment

Adjust the subcarrier phase roughly with the SC phase selector, then, make the fine adjustment using the SC PHASE control. A vectorscope will allow you to make the adjustment more easily.

Horizontal phase adjustment

Adjust the horizontal phase with the H PHASE control. A waveform monitor or an oscilloscope will allow you to make the adjustment more easily.

1-2-5. OPERATION

1) PREPARATION

- Check that all the units are connected properly.
- Set the POWER switch of the CMA-10/10CE to ON to turn on the camera.
- Turn on the video monitor, and adjust its controls properly.
- Set the camera's GAIN selector to 0 dB.
- Illuminate the subject properly.
- If a manual iris control lens is used, adjust the iris depending on the lighting conditions.

2) WHITE BALANCE ADJUSTMENT (for lifelike color reproduction)

There are two ways to adjust the white balance:

To adjust the white balance to the values preset at the factory
Select the position of the WHITE BAL selector depending on the lighting conditions.

Selector position	Label indication	Lighting conditions
1	3200°K (color temperature)	Iodine lamp, sunrise, sunset
2	INDOORS	Fluorescent light
3	OUTDOORS	Under a clear sky

Automatic white balance adjustment
(For the best possible color tone given under the lighting conditions)

1 Set the WHITE BAL selector to AUTO.
2 Shoot a white object (a white cloth or a white wall) with the camera so that the white object fills the screen.
3 Press the AUTO WHITE BAL button. When the automatic white balance adjustment is completed, the indicator lights up for a few seconds.

The white balance adjustment function may not operate in the following lighting conditions:
If the lighting is insufficient, the AUTO WHITE BAL indicator will not light up. This signifies that the white balance cannot be adjusted properly.
If the lighting is excessive, the AUTO WHITE BAL indicator will light up, even if the white balance cannot be adjusted properly. In this case, the entire monitor screen turns greenish to indicate that the white balance adjustment cannot be made properly.
In both cases, try to adjust the white balance again as follows.

When an auto iris lens is used:

If the lighting is insufficient, increase the lighting and press the AUTO WHITE BAL button again.

When a manual iris lens is used:

If the lighting is insufficient, open the iris or increase the lighting; if the lighting is excessive, stop down the lens. Then press the AUTO WHITE BAL button again.

Memory of the automatic white balance adjustment value

In the DXC-102/102P, a built-in memory stores the adjusted white balance value. The memorized value will be retained for about 24 hours after the power is turned off without any further power supply to the camera or until the adjustment is made again.

3) VIDEO OUTPUT LEVEL SELECTION

The video output level can be adjusted with the GAIN selector.

AUTO: Set the selector to this position when the lighting conditions are subject to change, as in conditions outdoors. The video output level is automatically adjusted according to the lighting conditions.
0 dB: Generally, set the selector to this position.
6 or 12 dB: The video output level is raised by 6 dB or by 12 dB depending on the position of the selector. When the lighting is insufficient and the picture observed on the monitor is too dim, set the selector to one of these positions.

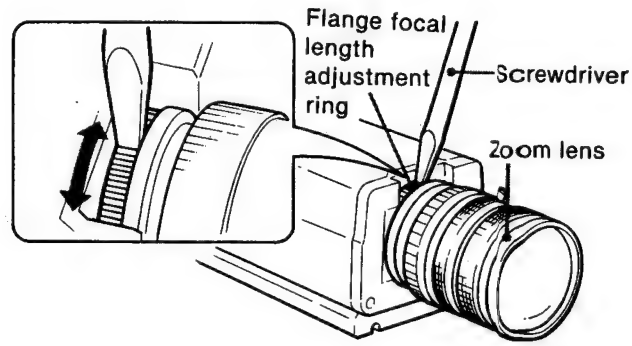
After the white balance and video output level adjustments have been completed, shoot an object with the camera and observe the picture on the monitor screen. Then focus the lens.
Once these adjustments have been completed, no further adjustments will be necessary unless the lighting conditions and the distance to the object change. To monitor the picture again after the camera and other units have been turned off, just turn on the equipments.

1-2-6. FRANGE FOCAL LENGTH ADJUSTMENT

When a zoom lens is used with this camera, flange focal length adjustment ensures that the object is in focus both at the wide-angle position and at the telephoto position when zooming. Once the flange focal length adjustment has been made, readjustment is unnecessary as long as the lens stays mounted on the same camera.
Focus on an object with fine detail to adjust the flange focal length.

Procedure

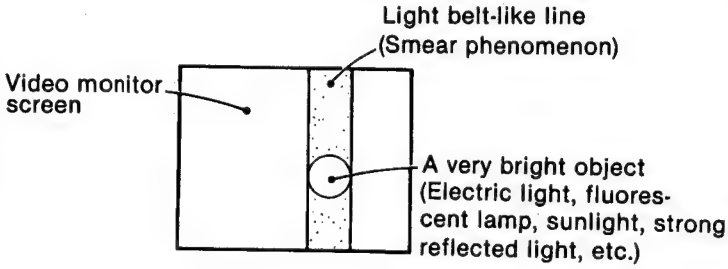
1 When a manual iris lens is used, set the iris fully open.
When an auto iris lens is used, illuminate an object so that the iris is fully open.
2 Point the camera at an object about 3 meters (10 feet) from the camera.
3 Set the zoom to the telephoto position.
4 Turn the focus ring to adjust the focus.
5 Set the zoom to the wide-angle position.
6 Turn the flange focal length adjustment ring of the camera until the same object is in focus. Do not turn the focus ring.



7 Repeat Steps 3 to 6 until the object is in focus while the zoom is in both the telephoto position and the wide-angle position.

1-2-7. SPECIAL CHARACTERISTICS OF A CCD

Smear phenomenon
A smear may appear when a very bright object is shot.

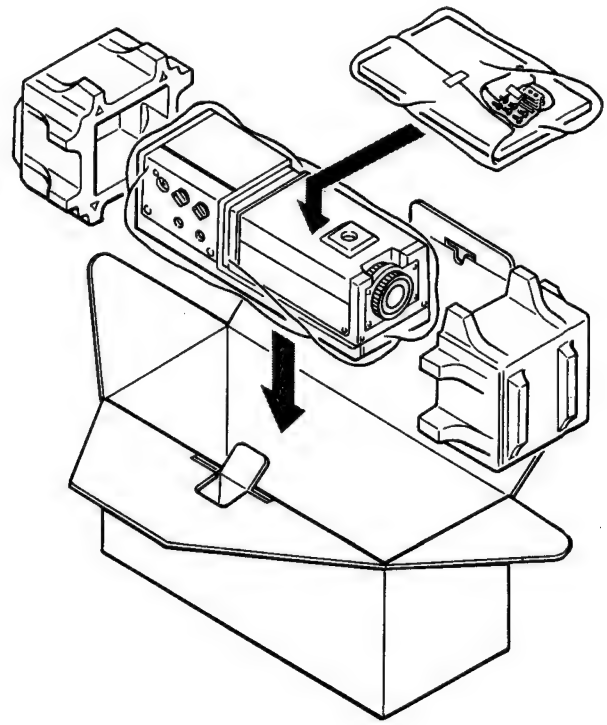


Patterned noise
This may appear uniformly over the entire monitor screen when the camera is operated at a high temperature.

Wavy picture
This may appear when fine stripes, strait lines, etc. are shot. The image monitored on the screen may appear wavy.

1-2-8. REPACKING FOR SHIPMENT

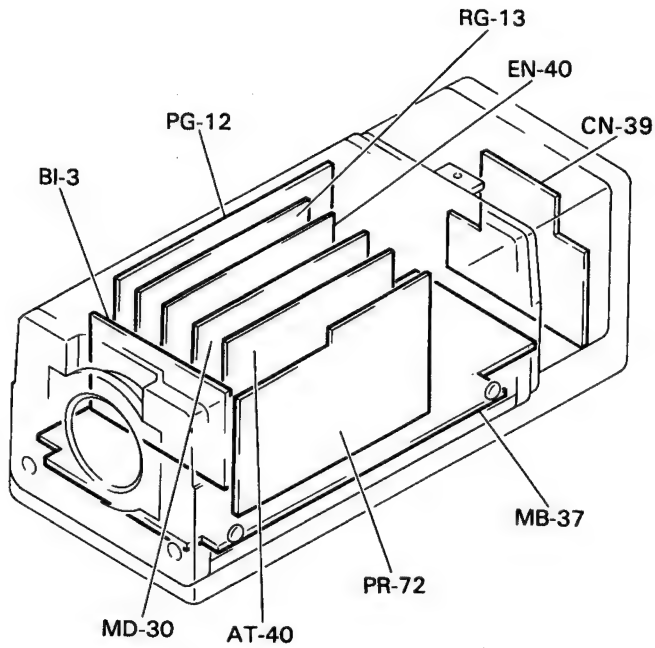
The repacking procedure is subject to change. Refer to the packing instructions on the original carton, as well as those shown here.



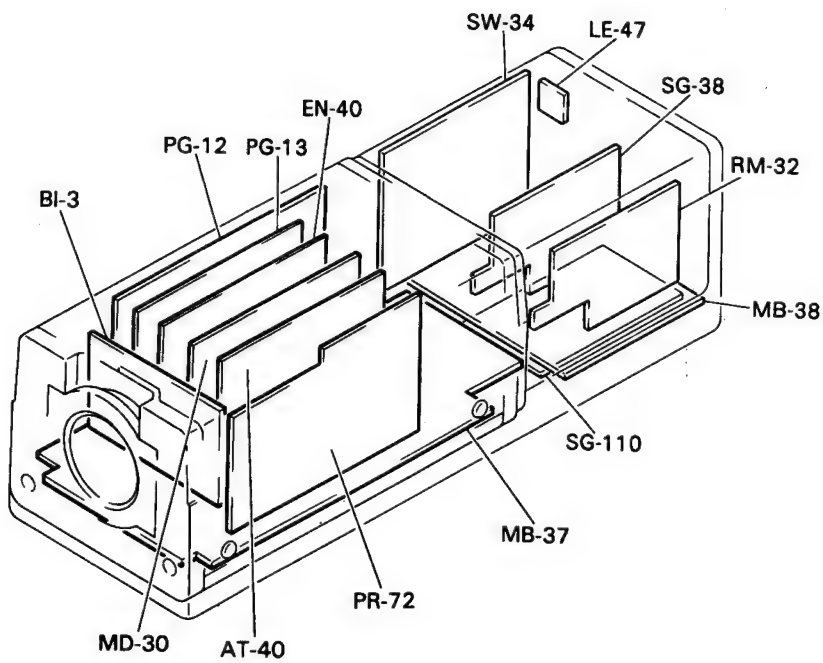
SECTION 2
SERVICE INFORMATION

2-1. BOARD LAYOUT

DXC-101/101P

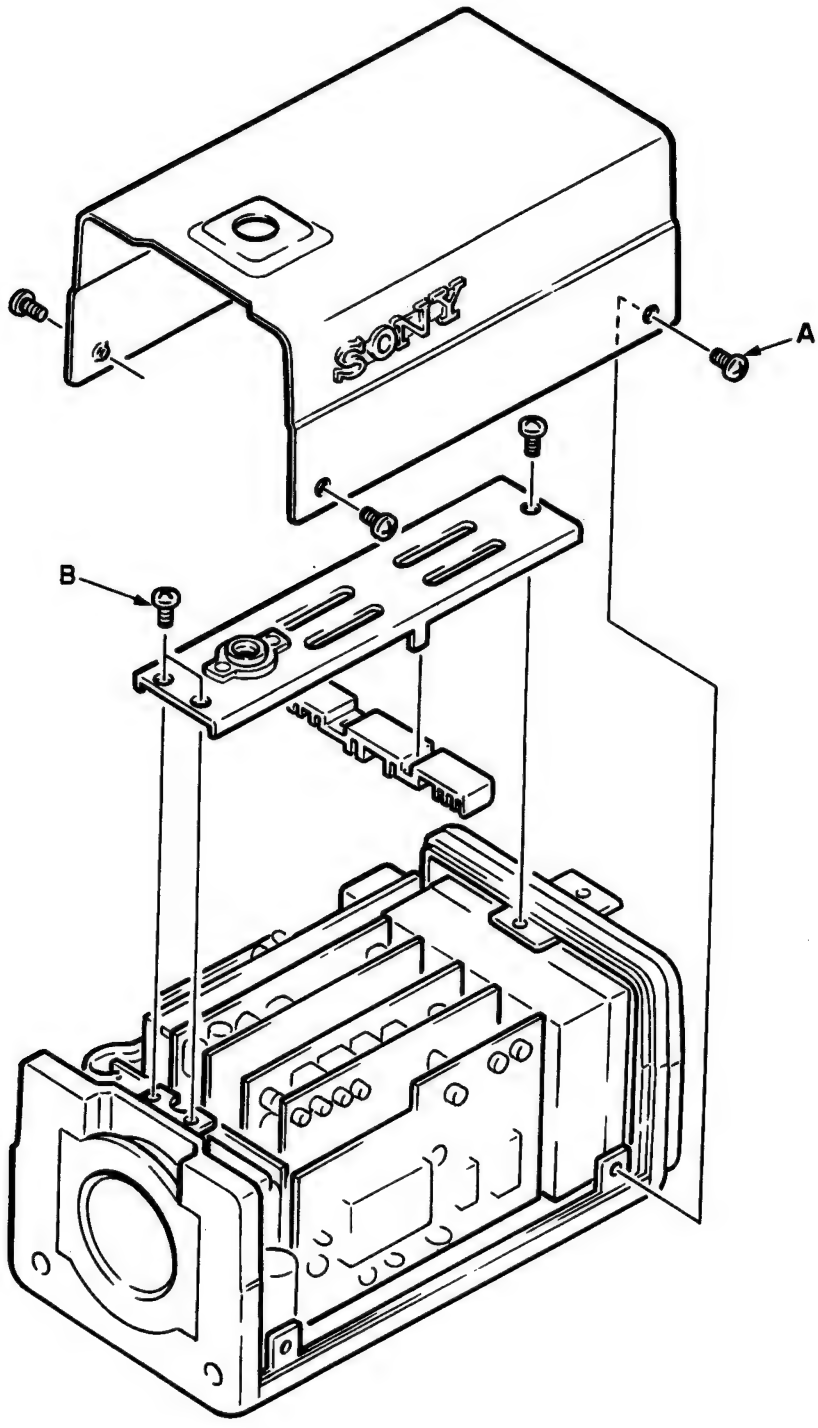


DXC-102/102P



2-2. REMOVAL OF CABINET

Remove the four screws A (PRECISION +P2x3) and remove the camera cover.
Remove the three screws B (PRECISION +P2 x 3) which hold the SPAN ASSY and remove the SPAN ASSY and board holder.

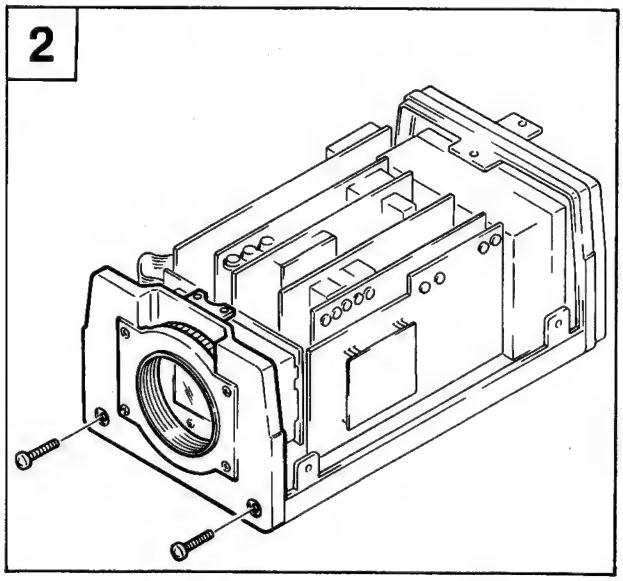


2-3. REPLACEMENT OF MAIN PARTS

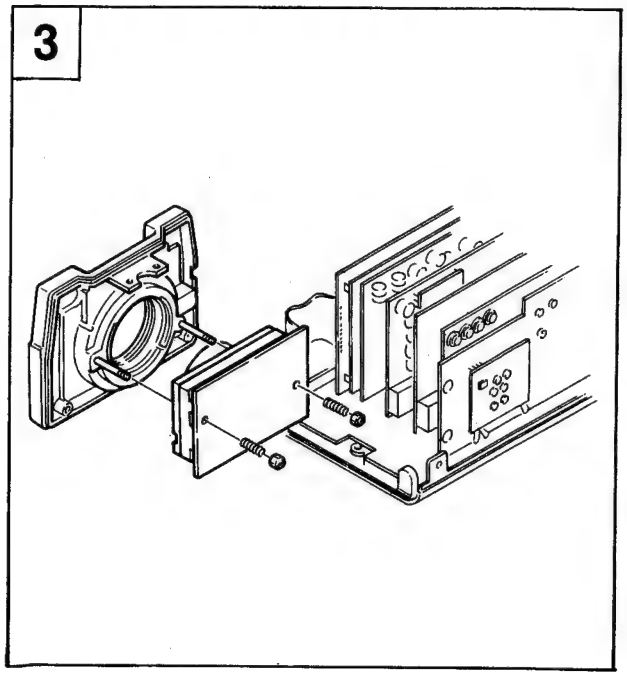
2-3-1. REPLACEMENT OF CCD ASSY

1. Remove the cabinet referring to 2-2. REMOVAL OF CABINET.

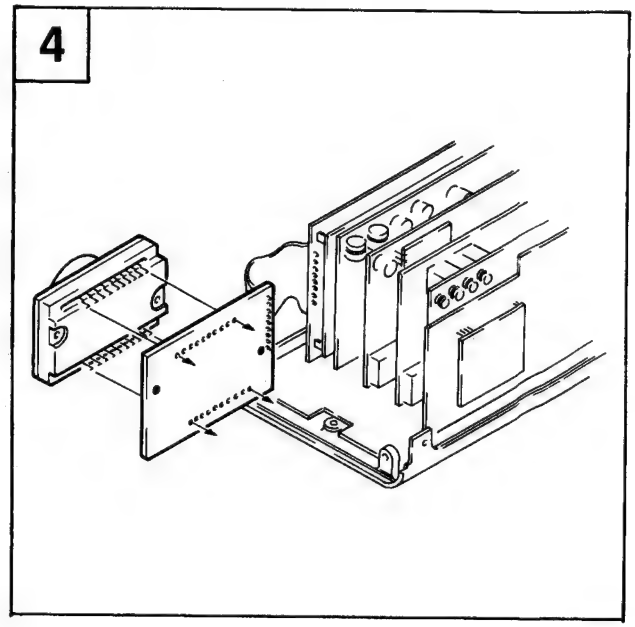
2. Remove the two screws which hold the front panel.



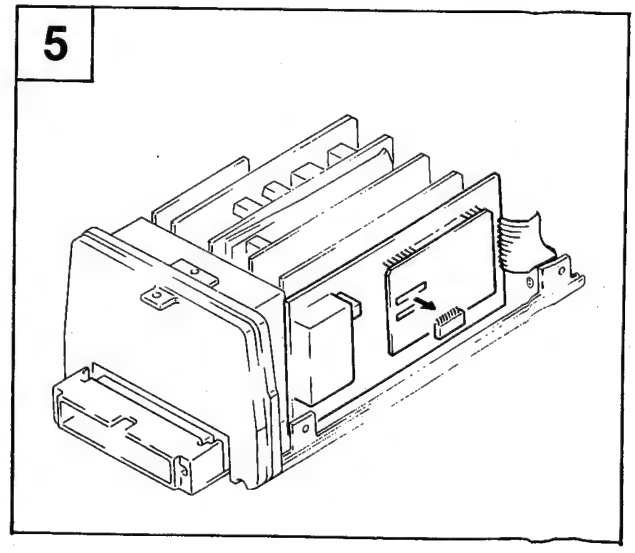
3. Remove the hexagonal screw shown in the figure below.
   When the board is pulled in the direction shown by the arrow, the CCD ASSY can be removed from the front panel.



4. Remove pins 1 - 20 of IC on the BI-3 board by using a desoldering tool.



5. When the CCD ASSY is replaced, be sure to replace the ROM IC with a new one attached to a CCD ASSY for repair. Take out the ROM IC (MB7052) of the IC on the PG-12 board. Place "soldawick" on the pins of the ROM IC and apply a soldering iron on it sufficiently so that it will absorb solder.
   To prevent the pattern from peeling off, do not pull it with tweezers or pliers.



6. Install a new CCD ASSY in opposite procedures of the disassembly. When the ROM IC is installed, use a soldering iron with temperature controller in order to prevent damage to the CCD.

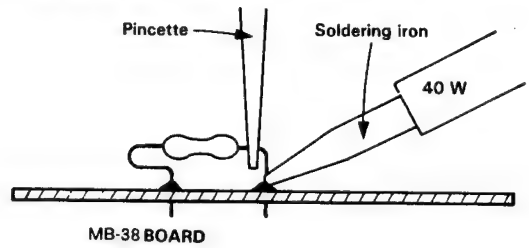
Place a new ROM IC on the home position and solder legs of the ROM IC one by one.

1. Apply a soldering iron on a leg for 7 - 10 seconds to heat up the leg and board.

2. After soldering, keep applying the solder iron for 4 - 5 seconds.

2-3-2. CAUTION OF FUSE REPLACEMENT

Applying too much heat may burn out fuses used in the camera module and the GENLOCK unit.
In case the fuse is replaced. Cut the lead of the fuse so that rather long lead wire remained with the fuse. Then hold the lead by a metal pincette, and solder the fuse quickly as shown below.
Please avoid any mechanical stress to the fusewhen you bent the leads.



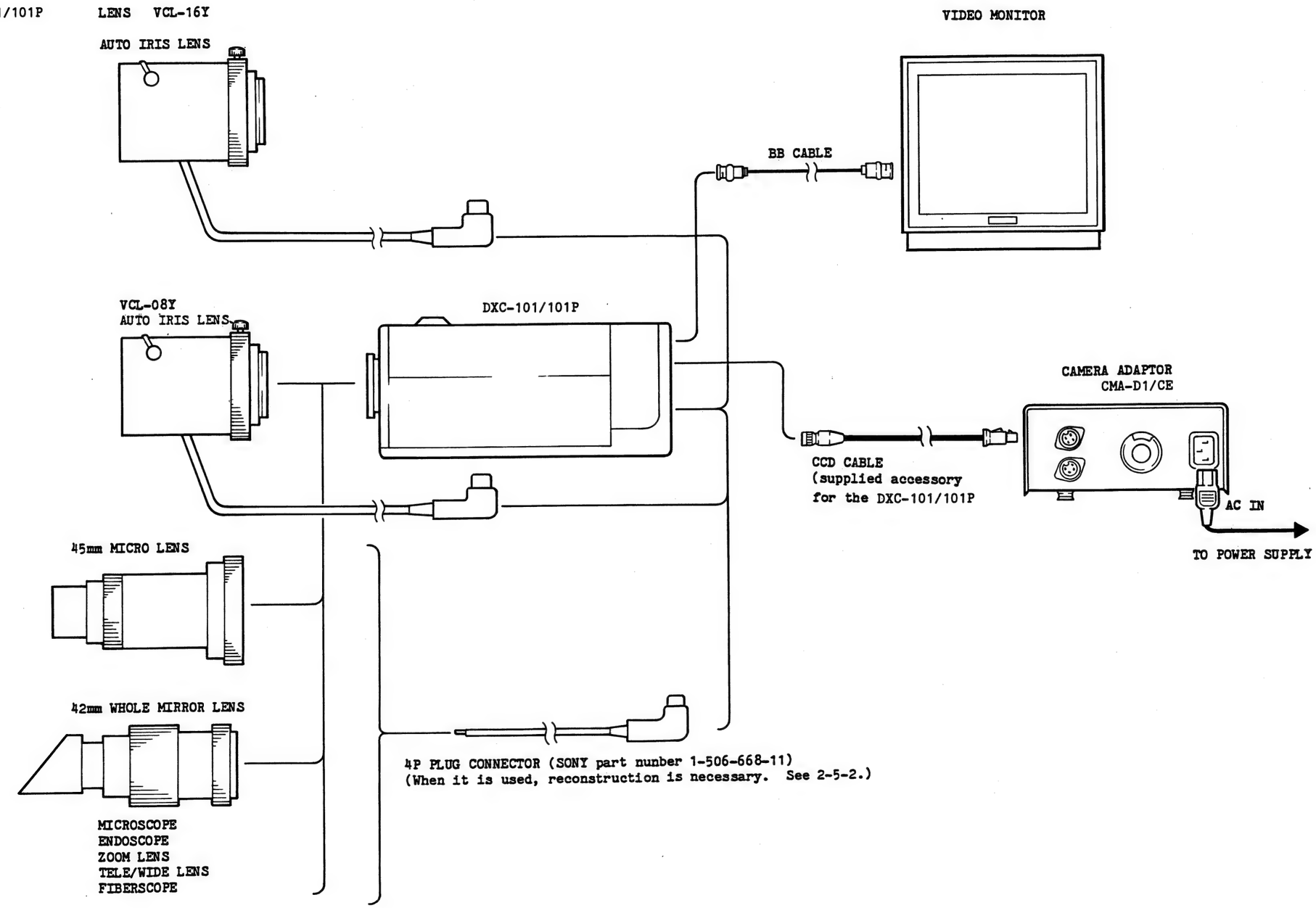
2-4. COMPATIBLE CONNECTORS AND CABLES

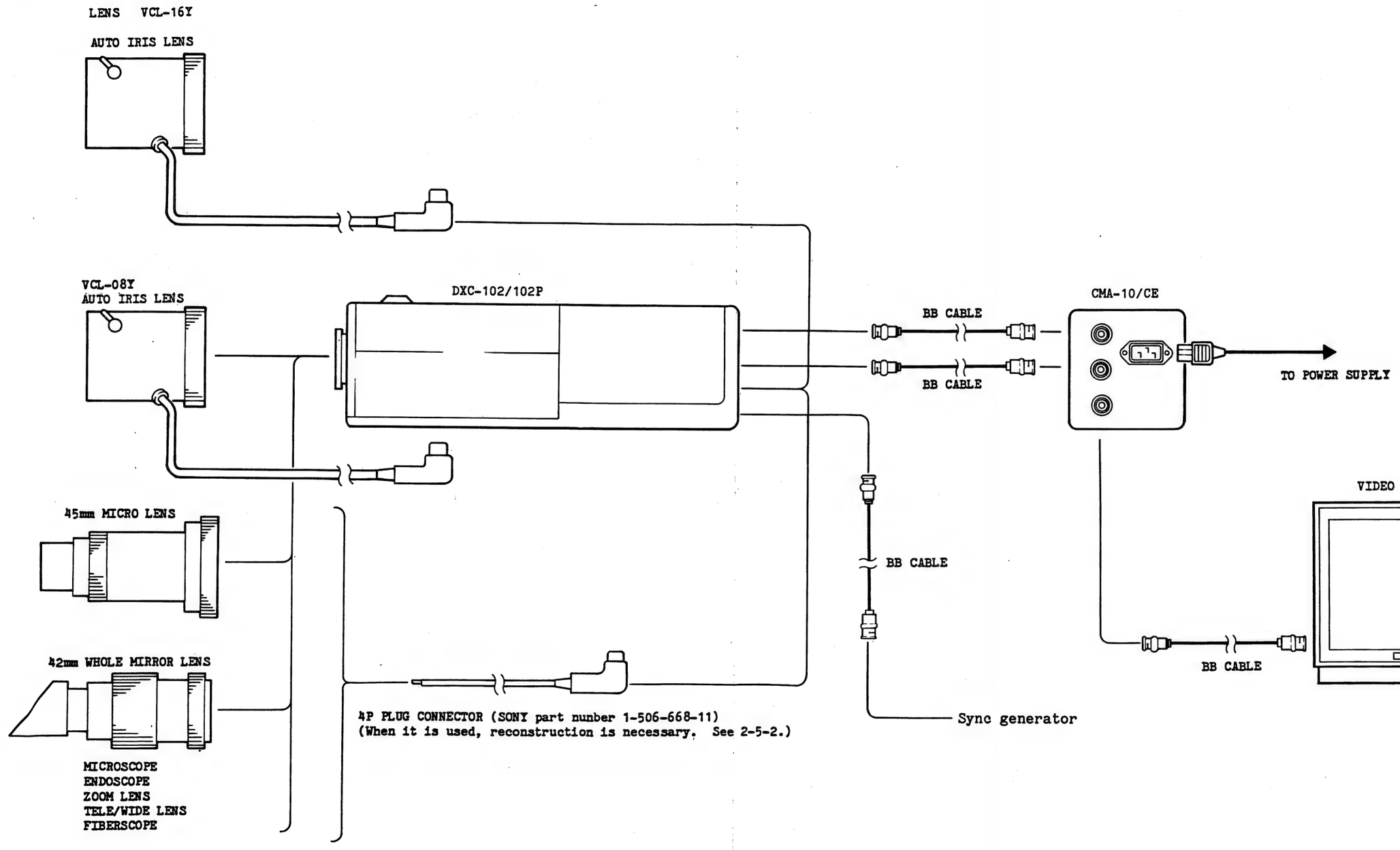
Attach the following connectors or equivalents to the ends of the cables to be connected on the connector panel during at installation or maintenance service.

DXC-102/102P function names	Connector names and part numbers of the connectors on the ends of the connection cables
VIDEO OUT, BNC REMOTE IN, BNC GENLOCK IN, BNC	BNC 1-508-898-00 B B CABLE (optional)
LENS 4P, FEMALE	LENS CONNECTOR 1-506-668-11 (When a lens, except for VCL-08Y or VCL-16Y is installed, modification is necessary. See 2-5-2.) CABLE with CONNECTOR 1-558-489-11

DXC-101/101P function names	Connector names and part numbers of the connectors on the ends of the connection cables
DC IN 4P, MALE	DIN(4P) PLUG 1-560-246-11 ROUND CONNECTOR, FEMALE (12P) 1-562-356-00 CCDC-10 1-557-668-12 (supplied accessory for DXC-101)
LENS 4P, FEMALE	LENS CONNECTOR 1-506-668-11 (When a lens, except for VCL-08Y or VCL-16Y is installed, modification is necessary. See 2-5-2.) CABLE with CONNECTOR 1-558-489-11
VIDEO OUT, BNC	BNC 1-508-898-00 B B CABLE (optional)

2-5. CONNECTION
2-5-1. SYSTEM BLOCK DIAGRAM

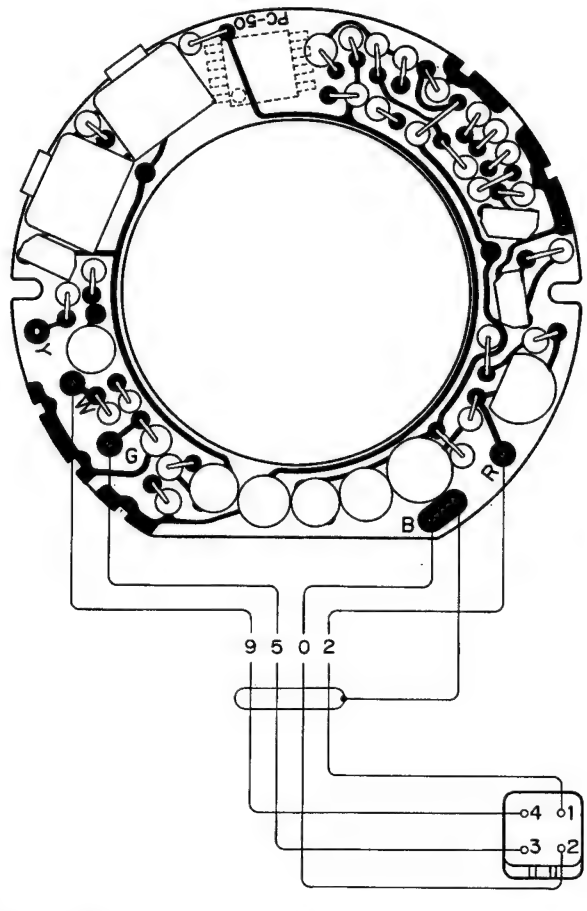



LENS VCL-16Y
AUTO IRIS LENS
VCL-08Y
AUTO IRIS LENS
DXC-102/102P
BB CABLE
BB CABLE
CMA-10/CE
TO POWER SUPPLY
45mm MICRO LENS
42mm WHOLE MIRROR LENS
MICROSCOPE
ENDOSCOPE
ZOOM LENS
TELE/WIDE LENS
FIBERSCOPE
4P PLUG CONNECTOR (SONY part nunber 1-506-668-11)
(When it is used, reconstruction is necessary. See 2-5-2.)
BB CABLE
Sync generator
VIDEO MONITOR
BB CABLE

2-5-2. MODIFICATION OF LENS CONNECTOR, EXCEPT FOR VCL-16Y OR VCL-08Y

When another lens is used, connect the lens connector to the lens cable referring to the cable wiring diagram shown below.

VCL-16Y/VCL-08Y LENS (CABLE WIRING DIAGRAM)



CONNECTOR INPUT/OUTPUT SIGNAL

PIN No.	WIRING COLOR CODE	SIGNAL NAME	CONNECTED TERMINAL
1	2	+12V IN	+12V IN Terminal on a board in anoter lens.
2	0	GND	GND IN Terminal on a board in anoter lens.
3	5	REMOTE IN/ OUT	REMOTE IN/OUT Terminal on a board in anoter lens.
4	9	VS IN	VS IN Terminal on a board in anoter lens.

2-6. INFORMATION ON MAINTENANCE SERVICE

2-6-1. NOTES ON REPAIR PARTS

1) Printed Components in bold-face type on the spare parts list are normally stocked for replacement purposes. The remaining parts are not normally stocked for routine service work. Orders for parts not shown in bold-face type will be processed, but allow for additional delivery time.

2) Components identified by shading marked with on the exploded view and spare parts list are critical to safe operation. Replace these components with Sony parts whose part numbers appear in the manual or service bulletins and service manual supplements published by Sony.

3) Replacement parts that are supplied from the Sony Parts Center can sometimes have a different shape and external appearance than what are actually used in equipment. This is due to "accomondating the improved parts and/or engineering changes" or "standard-ization of genuine parts".

2-6-2. HANDLING OF ROM IC ATTACHED TO A CCD ASSY

When the following components are replaced, be sure to replace a ROM of hybrid IC on the PG-12 board.

1) When the CCD ASSY is replaced.
Replace the ROM with a new one attached to a CCD ASSY for repair.
(See 2-3. REPLACEMENT OF MAIN PARTS)

2) When the PG-12 board is replaced.
Move the ROM of hybrid IC to a new PG-12 board.

2-6-3. PRECAUTIONS

Avoid operating and storing the camera in the following locations.

- Extremely hot or cold places (The operating temperature is from 0°C to +40°C.)
- Places subject to humidity or excessive dust
- Places subject to strong vibration
- Places near an antenna which transmits a strong electromagnetic wave.

Avoid covering the camera with a cloth or similar items while an operation to prevent raising the temperature in the camera because it is being badly ventilated.

Note on transporting
Do not discard the carton. It affords maximum protection whenever the camera is transported by track, ship, or plane. Repack it as it was originally packed.

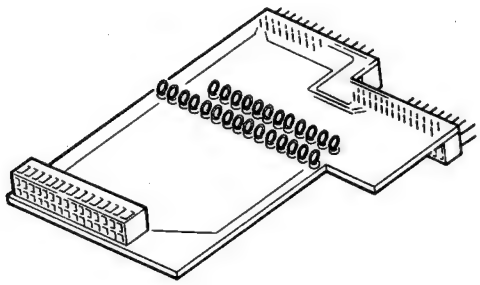
Note on cleaning
Clean the cabinet or panel with a dry soft cloth or soft cloth lightly moistened with mild detergent solution.
Do not use solvents such as alcohol, benzine, thinner, or insecticide as the finish may be damaged.

2-6-4. Caution when replacing the CCD image sensor

1. To prevent the static electricity shock
The CCD image sensor is easily destroyed by the static electricity.
When handling this device, prevent the static electricity shock as follows.
   a) Work with bare hands or wearing non-electrified gloves, and wearing non-electried clothes so as to prevent the static electricity.
   b) Install an earth board or an earth wire on a floor, a table and a door in a workshop so as to discharge the static electricity.
   c) Earth tools such as a screw drives, long nose pliers, a tweezer and a soldering iron.
   d) Earth a worker by wearing an earth band.
   e) The CCD image sensor is recommended to be discharged by spraying inoized air.
2. Window Glass
When dusts or soils stick to the surface of the glass, black spots appear in the picture.
Keep the window glass clean.
   a) Wipe off dusts and soils with soft cloth or cleaning paper which contains a little organic solution such as alcohol, and spray inoized air.
   b) Just before use, peel off a protection tape which has been stuck to the glass at the factory after performing "1. To porevent the static electricity shock". Don't use the stripped tape again.

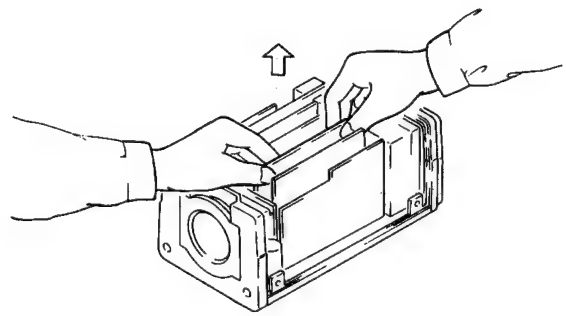
2-7. SERVICE JIG

Extension board : EX-97 (J-6028-450-A)
It is used for the alignment of the MD-30 and EN-40 boards. If two extension boards are prepared, the MD-30 and EN-40 boards can be aligned correctly at the same time.



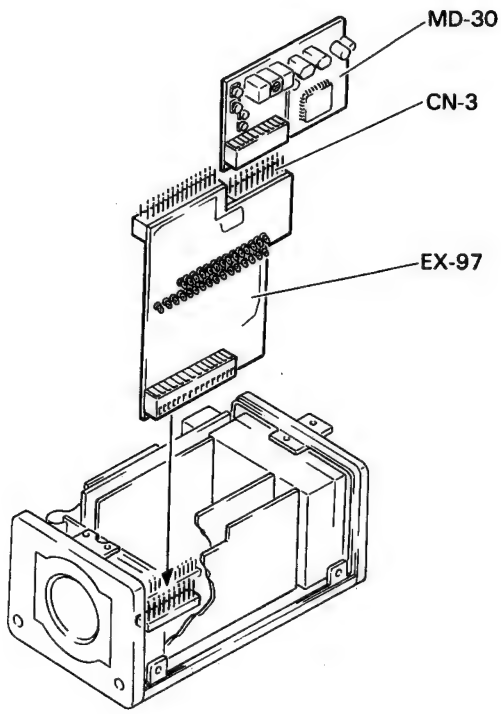
[INSTALLATION OF EXTENTION BOARD EX-97]

1. Remove the cabinet referring to 2-2. REMOVAL OF CABINET.
2. Hold the ends of the board and pull up MD-30, EN-40 boards as shown in the figure.

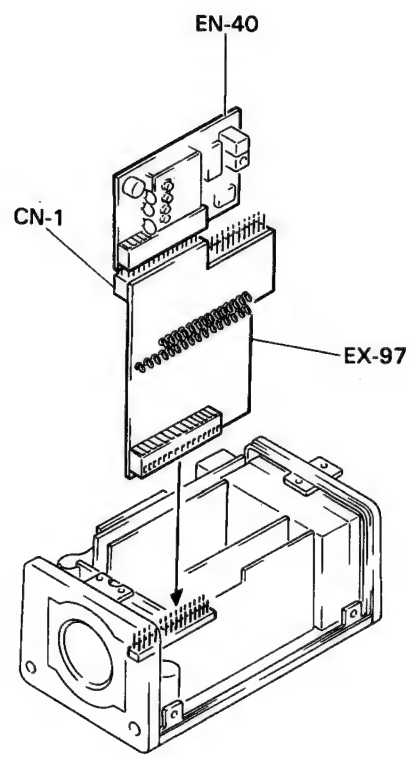


3. Insert the EX-97 board.

Insert CN1 on the MD-30 board to CN3 on the EX-97 board.



Insert CN1 on the EN-40 board to CN1 on the EX-97 board.



SECTION 3
THEORY OF OPERATION

3-1. Operation principle of the CCD

A CCD (Charge Coupled Device) consists of MOS (Metal-Oxide-Silicon) capacitors arranged in a regular array.
It basically performs three functions connected with handling electrical charges.

1. Photoelectric conversion (photo sensor)

Incident light generates electrical charges on the MOS capacitors, with the quantity of charge being proportional to the brightness.

2. Accumulation of electrical charges

When a voltage is applied to the electrodes of the CCD, an electrical potential well is formed in the silicon layer. The electrical charge is accumulated in this well.

3. Transmission of electrical charge

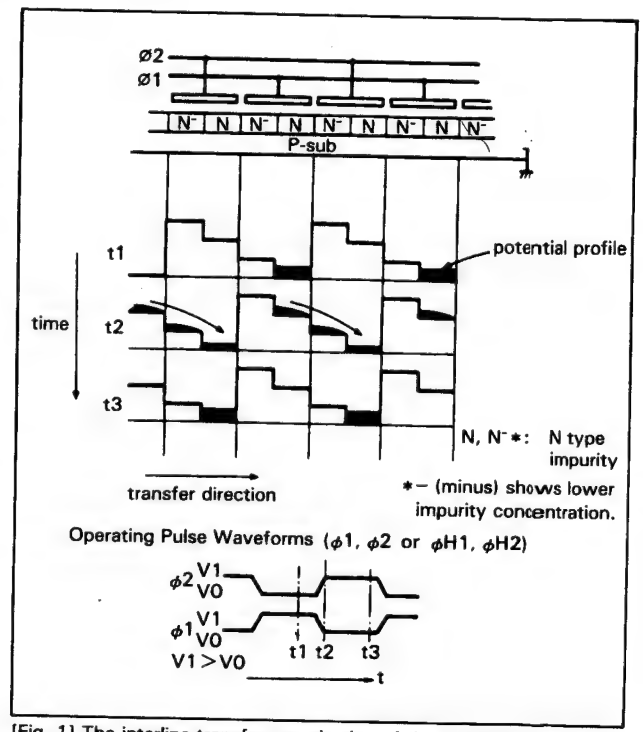
When a high voltage is applied to the electrodes, a deeper well is formed; when a low voltage is applied, a shallower well is formed. In the CCD, this property is used to transmit electrical charge. When a high voltage is applied to the electrodes, a deep electric potential well is formed, and electrical charge flows in from neighboring wells. When this is repeated over and over among the regularly arranged electrodes, the electrical charge is transferred from one MOS capacitor to another.
This is the priciple of CCD electrical charge trasmission.

3-2. Mechanism of CCD electrical charge transmission

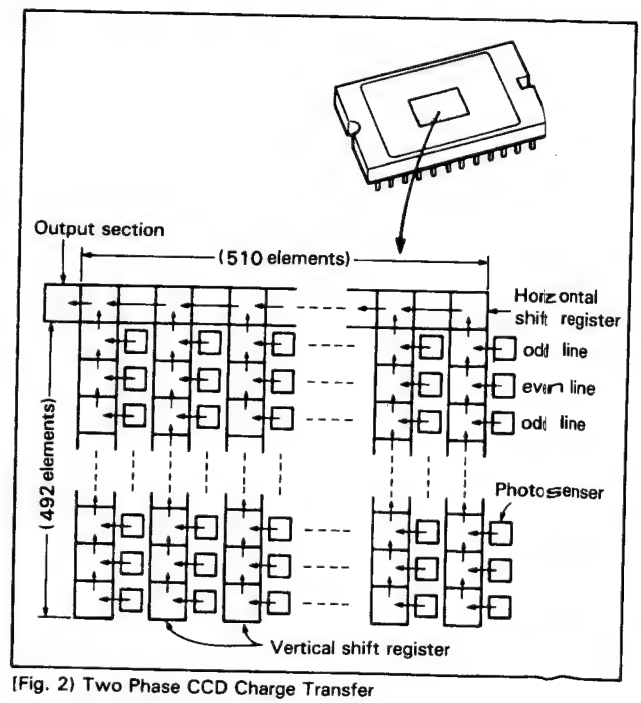
The DXC-101/102 camera uses a 4-phase drive method CCD in practice. For simplicity, a 2-phase drive method CCD is explained below.
Figure 1 shows an example of the changes which can occur in potential wells is successive time intervals.
At t1, the electrode voltages are ø1>ø2, so the potential wells are deeper toward the electrode at the higher voltage ø1.
Electrical charge accumulates in these deep wells. At t2, the clock voltages ø1 and ø2 are reversed; now the wells toward the electrode at voltage ø2 are deeper while those toward the electrode at voltage ø1 are shallower. Since the wells toward the electorde at ø2 are deeper than those toward the electrode at ø1, the signal charge flows toward the deeper wells toward the electrode at voltage ø2. At t3, the electrode voltages have not changed since t2, so the signal charge flows into the wells toward the electrode at ø2, and one transmission of electrical charge is completed. This action is repeated over and over to execute the horizontal and vertical transmissions.

3-3. The interline-transfer organization of the CCD image sensors

The DXC-101/102 CCD video camera module adopts an interlinetransfer organization in which precisely aligned phontosensors and vertical Transmission section are arrayed interlinearly and a horizontal shift resister links up with the vertical Transmission section. Light variations are sensed by the phontosensors, which generate electronic charges proportional to the light intensity. The generated charges are fed into the vertical shift registers all at once. The charges are then transferred from the vertical Transmission section to the horizontal shift registers successively and finally reach the output amplifier to be read out successively.



[Fig. 1] The interline-transfer organization of the CCD image sensors



[Fig. 2) Two Phase CCD Charge Transfer

3-4. BI-3 board

Light which comes through the camera lens strikes the CCD chip surface of IC1 on the BI-3 board. The surface of the CCD chip contains a number of photo sensors. The photo sensors are arranged in a 510 (horizontal) X 492 (vertical) array, so that threr are a total of 250,920. Incident light is converted to an electrical signal with the amplitude (electric charge analog amount) at the photosensor section in proportion to the brightness of the light. The converted electric charge is read out by the transfer section from the photosensor, and is transferred in sequence and fed to the output section.

The transfer section is subdivided into horiontal and vertical transfer sections.

Figure 2. in the figure below, there are 510 vertical transfer sections, while there is only one horizontal transfer section, across the top. Each converted electric charge is transferred to the transmission element (vertical transmission element) immediately to the left of it.

The electric charge on each vertical transfer section are transferred in sequence, from the bottom to the top of the screen, at a frequency determined by the vertical transfer clock f_H. At the top there is the horizontal transfer section.

The horiozontal transfer section sends electrical signals to the output section at a rate of 455 f_H.

The capacitor in the output section converts the electrical charge to a voltage signal; it is then output from the IC1, passed through the buffer Q1 and sent to MB-37 board.

3-5. MB-37 board

The signal from the BI-3 board output by the CCD chip is separated into two signal paths. The signal of one path is sampled by the sample and hold pulse (SHP), the singal of the other path is sampled by two different sample and hold pulses (SHD and SHP), and these signals are converted into video signals. The output signal of a CCD chip used as an image photo sensor includes inherent noise, and these sample and hold circuits remove most of this noise.

The SAMPLE and HOLD circuits and DC-DC converter are on this board.

If an element of the CCD chip is defective, its output is not sampled, but is replaced by the last sampled signal.

Each signal then goes to the differential amplifier, and the output signal goes to the PR-72 board.

The externally supplied DC from the CN-39 board is converted into four different DC voltages by the DC-DC converter: +20 V, +8.5 V, +5 V, and −5 V. These voltages are supplied to each board.

3-6. PR-72 board

The video signal processing circuits are on this board.

The processing circutits convert the output signal of the CCD chip into several control signals and into gammacorrected G and R/B signals.

The signal from the MB-37 board output by the CCD chip is gain controlled by the gain control signals (AGC CONT, G1, and G2), then this gain-controlled signal is separated into two signal paths. The signal of one path is not processed on this board, but goes directly to the AT-40 board as the IRIS DET signal, which is the controlled lens iris data.

THe signal of the other path is automatically gain controlled in the AGC circuit, then it is separated into two signal paths. Here, the signal of one path goes directly to the AT-40 board as the AGC DET signal, which is the controlled auto gain data. The signal of the other path, which is to be used as the video signal, is separated into G and R/B signals.

These G and R/B signals are mixed, then the mixed signal is applied to the color mixing correction, white balance control, and clamping circuits. THis signal is separated into two paths. The signal of one path goes directly to the AT-40 board as the G DET signal, which is the controlled G signal data. The signal of the other path is applied to the blanking mixer, pedestal adder, gamma correction circuit, and white clip circuit; then it goes to the MD-30 board as the G γ signal.

The white balance for each R or B signal is respectively performed by the R or B attenuator control signal from the MB-37 board. Each signal is clamped, off-set controlled, then switched line-by-line by the multiplexer so that the R and B signals are alternately output as a sequential signal. This signal is separated into two signal paths. The signal of one path goes directly to the AT-40 board as the R/B DET signal, which is the controlled R/B signal data. The signal of the other path is applied to the blanking mixer, pedestal adder, gamma correction circuit, and white clip circuit; then it goes to the MD-30 board as the R/B γ signal.

3-7. MD-30 board

The KNEE control circuits for the G and R/B signals are on this board. The 1H delay line circuits, which delay the signals by 1H or 2H, and the matrix circuits for the Y_H, Y_L, Y_H, R-Y, and B-Y signals are also on this board.

The G γ signal from the PR-72 board is applied to the knee clipper and the clamping circuits, then it is separated into two signal paths. The signal of one path is directly output as the original G signal, and the signal of the other path is delayed by the 1H delay line. This delayed signal is clamped, gain controlled, then separated into two signal paths. Here, the signal of one path is directly output as the 1H delayed G signal, and the signal of the other path is again delyed by the same 1H delay line. This 2H delayed signal is clamped, gain controlled, then output as the 2H delayed G signal. As described here, the G1 signal is delayed to produce the following three signals, which have different timings: 0H delayed (G0), 1H delayed (G1), and 2H delayed (G2) signals.

The R/B signal from the PR−72 board is also processed in the same way to produce 0H delayed (R0/B0), 1H delayed (R1/B1), and 2H delayed (R2/B2) signals.

Then, the G0 and R0/B0 signals, the G1 and R1/B1 signals, and the G2 and R2/B2 signals are applied to the subtracters to output the G0-R0/B0, G1-R1/B1, and G2-R2/B2 signals.

The G0 and G1 signals, and the R0/B0 and R1/B1 signals are applied to the Y_H matrix circuits and mixed to be two signals. These two signals are mixed to be the Y_H signal.
The undesired sampling noise in the Y_H signal is filtered by the low-pass filter, then the filtered signal goes to the EN-40 board.

Both the G1-R1/B1 signal and the mixed signal of the G0-R0/B0 and G2-R2/B2 signals are applied to the multiplexer, and the R and B signals are switched line-by-line with the ID signal to output the G-R and G-B signals. Each of these signals is separated into two signal paths. Each signal of one separated path is applied to the chroma matrix circuits ot output the R-Y and B-Y signals. These signals are gain controlled, then go to the EN-40 board. Each signal of the other separated path is applied to the Y_L matrix circuit with the G1 signal to be one signal. This signal is mixed with a signal resulting from a mixture of the G0, G1, and G2 signals and the apperture correction in the vertical direction. The signal processed here is compared with the Y_H signal, then goes to the EN-40 board as the Y_L-Y_H signal.

3-8. EN-40 board

The encoders are on this board.
The R-Y and B-Y signals from the MD-30 board are clamped modulated by the balanced modulators, then mixed to become the chrominance signal. After passing through the burst signal adder, this signal is applied to the chroma balanced mixer.

The Y_H signal from the MD-30 board is clamped, then delayed by 150 ns. After this, apperture correction is performed. This signal is then mixed with the clamped Y_L-Y_H signal from the MD-30 board. Next, the signal is applied to the gain controller, blanking cleaner, setup circuit, and white clip circuit; then it is separated into two signal paths. The signal of one path is mixed with the chrominance signal in the chroma balanced mixer, previously described. For this signal, the undesired Y signal components are filtered by the band-press filter. After this, blanking mixing is performed with the HD signal, and this signal is mixed with the signal of the other path.

This mixed signal is separated into two signal paths. The signal of one path is clamped, then goes to the MB-37 board as the video output signal (VBS). A sync signal is added to the signal of the other path, then this signal also goes to MB-37 board as the VS (B/W) signal.

3-9. CN-39 board

The power-on reset circuit, auto white balance trigger signal generator, and auto white balance indicator signal generator are on this board.

The power-on reset circuit operates when power is supplied. This circuit prevents mal-operations of the auto white balance trigger signal generator and the auto white balance indicator signal generator caused by insufficient voltage supplied to the ICs or by noise when the power is switched on.

When manual white balance is performed, this power-on reset circuit is controlled by the WB1 and WB2 signals. Therefore, in this case too, this circuit prevents mal-operations of the auto white balance trigger signal generator and the auto white balance indicator signal generator.

The auto white balance drive signal, which is HIGH when the auto white balance button on the side of the camera unit is pressed, is applied to the auto white balance trigger signal generator. The output signal of this auto white balance trigger signal generator operates as a trigger signal to the auto white balance circuit. When the auto white balance adjustment is completed and the white balance becomes the specified value, the indicator control signal, which is used to indicate OK for the white balance completion, is fed from the AT-40 board. This signal is applied to the auto white balance indicator signal generator. The output signal of the auto white balance indicator signal generator controls and switches the auto white balance LED indicator on the side of the camera unit. The drive signals (GAIN1 and GAIN2) from the gain switch on the side of the camera unit go directly to the PR-72 board.
The VBS and VS (B/W) signals go directly to the VIDEO OUT connector and to the LENS connector on the back of the camera unit respectively.

3-10. PG-12 board

The sync signal generator (IC1) and the pulse generator (IC2) which is necessary to drive the CCD chip are on this board.

In the IC1 circuit, the VCO control signal from the RG-13 board is used as a clock signal to generate the following signals:

BLKG: Horizontal and vertical blanking signals

SYNC: Horizontal and vertical sync signals (composite sync)

CK: 910 f_H clock pulse

HD and VD: Horizontal and vertical drive pulses

BF: Horizontal and vertical burst flag

O/E: fv/2 pulse for detection of Odd/Even fields

These CK, O/E, and HD pulses generated by IC1 and the VCO control signal from the RG-13 board are applied to IC2 to generate the following signals:

H1 and H2: Horizontal shift register drive pulses
These two signals having different phases are used to drive the horizontal shift register of the CCD chip to transfer the electric charges stored in the horizontal shift register.

V1 to V4: Vertical shift register drive pulses
These four signals having different phases are used to drive the vertical shift registers of the CCD chip to transfer the electric charges stored in the vertical shift registers.

PG: Precharge gate control pulse
The precharge gate is the gate of the output section connected to the horizontal shift register of the CCD chip. This gate is controlled by this pulse to convert a transferred electric charge into a voltage.

SHP and SHD: These pulses are the sample and hold pulses to gate the output signal of the CCD chip.

H BLKG: This pulse is used to hold the horizontal flyback period of the output signal of the CCD chip.

VAA: This pulse is used to hold the vertical flyback period of the output signal of the CCD chip.

SH1 and SH2: These are the sample and hold pulses for the 1H delay line (MD-30 board).

SP1 and SP2: These are the sample and hold pulses for chrominance separation (PR-72 board).

CLP1: This pulse is used to clamp the level of the optical black part o the output signal of the CCD chip.

CLP2 and CLP3: These are the 1H period clamp pulses.

ID: This is the identification signal for the R/B lines.

B line: H
R line: L

3-11. AT-40 board

The AGC control signal generator, auto white balance controller, and auto white balance indicator driver signal generator are on this board.

The G DET signal derived from the G signal and the R/B DET signal derived from the R/B signal, which are fed from the PR-72 board, are clamped and their amplitude is doubled. For each signal, the signal in a time period, which is the same as for 1/9 of one field picture (1/3 in horizontal and 1/3 in vertical directions), is blanked by the BLKG signal, then the pedestal is added. These signals are compared with each other and output as the R-G COMP and B-G COMP signals, which are applied to the auto white balance controller circuit.

When the auto white balance trigger signal is applied to the auto white balance controller circuit, the R-G COMP and B-G COMP signals control the voltages used to control the corresponding chrominance signal attenuators, and these signals are output to the PR-72 board as the R and B attenuator control signals.

The AGC DET signal from the PR-72 board, used to detect the auto gain, is clamped and its amplitude is amplified by 3.3 times. Then, this signal is applied to the blanking cleaner and the pedestal adder.

After this, the signal is applied to the weighting amplifier so that the highlighting at the top part of a picture is not detected, then it is applied to the mean value detector. This detected signal is amplified by the DC amplifier, then goes to the PR-72 board as the AGC control signal.

When the level of the auto white balance trigger signal becomes HIGH, auto white balance adjustment is performed. When this adjustment is completed and OK is indicated, the level of the auto white balance indicator driver signal switches from H to L, then goes to the MB-37 board.

3-12. RG-13 board

The 4fsc signal generator, VCO control signal generator, and +12 V voltage regulator are on this board. To select an external or internal 4fsc signal or to select an internal or external VCO control signal is controlled by the EXT/INT signal.

The DXC-101/102 camera unit does not have a gen-lock unit; therefore, the level of the EXT/INT signal is kept LOW to select internally generated signals only. Of the internally generated signals, the frequencies of the 28 MHz VCO control signal for the NTSC system and of the 28 MHz 4fsc signal for the PAL system are adjusted on the RV2/RG-13 board.

The 4fsc output signal goes to the EN-40 board, and the VCO control output signal goes to the PG-12 board.

The MB-37 board supplies +20 V to this +12 V voltage regulator. For this regulator, +5 V is used as a reference voltage to regulate the +12 V output. This output voltage is supplied to the MD-30 and PG-12 boards.

3-13. MB-38 board (DXC-102/P only)

The GENLOCK DRIVER circuit and EXT 4fsc oscillator circuit are on the MB-38 board.
VBS, CK, SYNC, and SC signals from the camera module are sent to the GENLOCK DRIVER curcuit. Then, the SC COMP signal, which is the output signal of the MB-38 board, goes to the SG-110 board. This SC COMP signal is converted to a VCO control signal on the SG-110 board, then returned to the MB-38 board. This VCO control signal drives the EXT 4fsc oscillator, and the EXT 4fsc signal goes to the camera module.

3-14. SG-38 board (DXC-102/P only)

The GENOCK DRIVER circuit is on the SG-38 board.
When a composite video signal is sent to the GENLOCK IN connector (BNC), the external sync mode is selected and the level of the GEN EXT/INT signal from pin 9 of IC1 becomes HIGH. The composite video signal sent to the GENLOCK IN connector (BNC) is sync-separated in the sync separator circuit of IC2 to output EXT CHROMA and EXT SYNC signals. The EXT SYNC signal is directly input to IC1 to send to the GENLOCK DRIVER inside the IC. The undesired Y-signal components of the EXT CHROMA signal are removed by the low-pass filter, composed of L4 and C5, then the signal is sent to IC1 to be converted to an EXT SC signal by the band-pass filter inside the IC.
This EXT SC signal is sent to the GENLOCK DRIVER inside the IC.
The INT SC signal from the camera module is phase-shifted and its duty cycle is set to 50% in IC4 to output two signals having opposite phases. IC3 selects one of these signals and the selected signal is sent to IC1. The PHASE SHIFTER in IC4 is controlled by the SC PHASE controller on the GENLOCK unit side and the phase selection of the signals in IC3 is controlled by the SC 0°/180° selector.
The following signals, output from IC1, go to the SYNC GENERATOR inside the camera module when the NTSC/PAL selector mode signal and CK signal from the camera module are sent to IC1 with the signals described before.
HR: H-reset signal
VR: V-reset signal
L ALT R: L ALT reset signal (PAL model only)
H COM: H-phase comparator signal
SC COM: SC phase comparator signal
GEN EXT/INT: Detection signal for EXT/INT sync mode
H: External sync
L: Internal sync
When a composite video signal is not sent to the GENLOCK IN connector (BNC), the internal sync mode is selected. In this case, the level of the GEN EXT/INT signal output from pin 9 of IC1 is LOW.

3-15. RM-32 board (DXC-102/P only)

A 4-bit microprocessor is on the RM-32 board. The VD signal from the camera module and the AUTO W/B IND signal from the SW-34 board are sent to the microprocessor, and the microprocessor outputs and inputs the signal as serial data to and from the REMOTE connector.
The AUTO W/B TRIG signal and PEDESTAL control signal from the microprocessor go to the SW-34 and MB-38 boards. This microprocessor also outputs the CCU IND and W/B control signals. The CCU IND signal is separated into two signal paths.
The signal of one path goes to the SW-34 board. The signal of other path and the W/B control signal are sent to the NOR gate with the control signal from the W/B switch on the GENLOCK unit side, then the output signal of this gate goes to the MB-38 board as the W/B control signal.

3-16. SW-34 board (DXC-102/P only)

The AUTO W/B IND and AUTO W/B TRIG signal generator circuits are on the SW-34 board.
The AUTO W/B IND drive signal from the RM-32 board and the AUTO W/B IND drive signal from the camera module are sent to the AUTO W/B IND signal generator circuit to output the AUTO W/B IND signal which controls the AUTO W/B indicator LED on the GENLOCK unit side.
The AUTO W/B TRIG drive signal from the RM-32 board and the TRIG signal controlled by the AUTO W/B button on the GENLOCK unit side are sent to the AUTO W/B TRIG signal generator circuit. The AUTO W/B TRIG signal, which is the output of this circuit, goes to the camera module via the MB-38 board.
The W/B control signal controlled with the W/B switch on the GENLOCK unit side controls the AUTO W/B IND and AUTO W/B TRIG signal generator circuits. It also goes to the RM-32 board.
The GAIN control signal controlled with the GAIN switch goes to the camera module via the MB-38 board. The signals controlled with the H PHASE controller, SC PHASE controller, and SC 0°/180° switch go to the SG-38 board.

3-17. SG-110 board (DXC-102/P only)

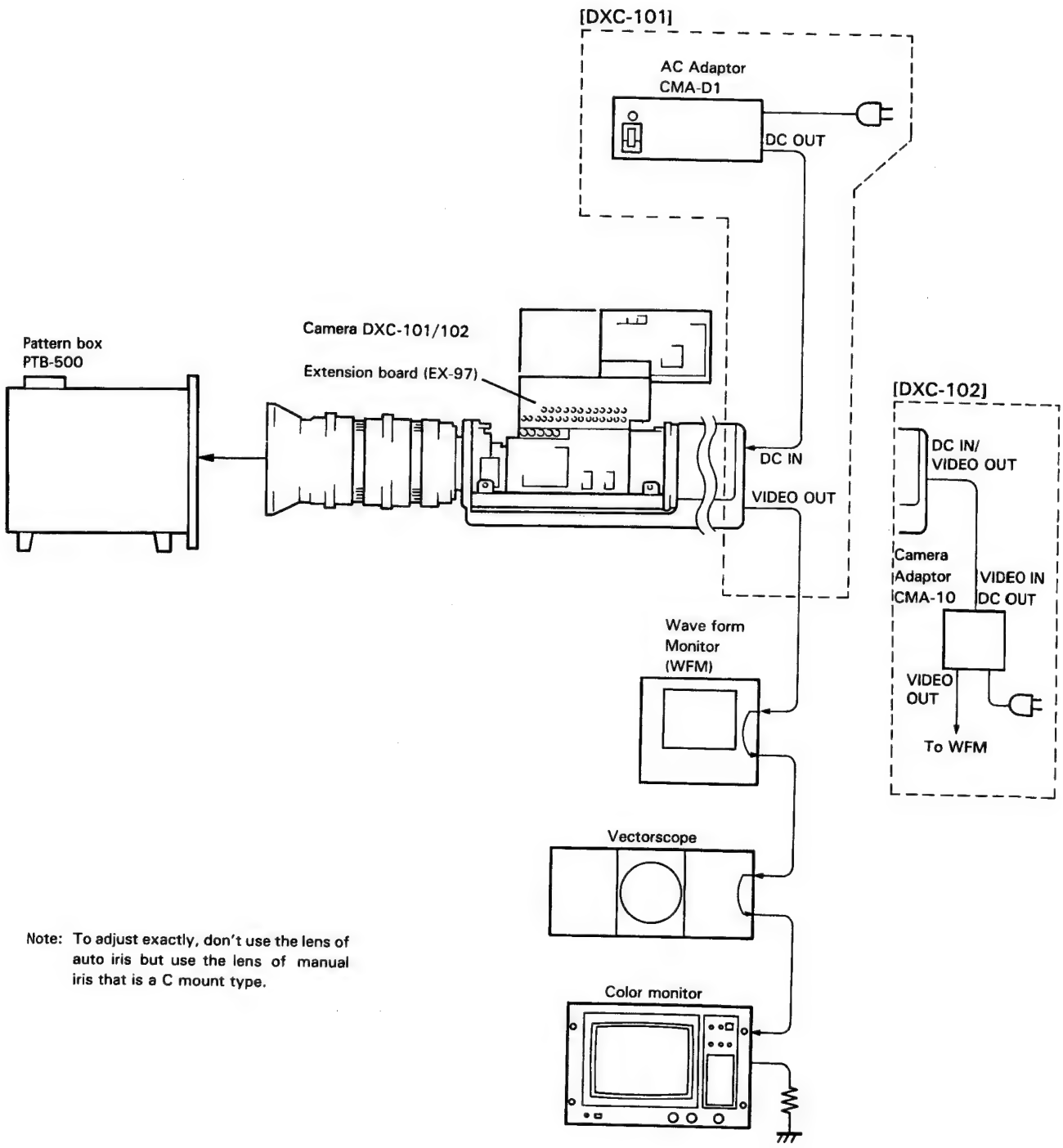
The DC adder circuit and VCO control signal generator circuit are on the SG-110 board.
The VBS signal from the MB-38 board is added to the DC of the DC IN/VIDEO OUT connector, then it is output from the DC IN/VIDEO OUT connector.
The DC from the DC IN/VIDEO connector is sent to the voltage regulator, then supplied to the MB-38 board as the REG +22 V.
The SC COMP signal from the MB-38 board is sent to the VCO control signal generator circuit. The undesired chroma signal components are removed by the low-pass filter of IC1, then it goes to the MB-38 board as the VCO control signal.

SECTION 4
ALIGNMENT

4-1. PREPARATION

4-1-1. Connection for Adjustment

Revised-1 Change Information in SECTION 4		
Pattern box is changed	to PTB-500	from PTB-100.
Parts number of above is changed	to J-6029-140-A	from J-6020-490-A.
The filter is changed	to LB140	from C14.
The filter is changed	to LB200	from C20.

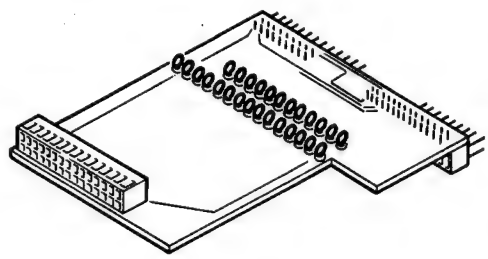


Note: To adjust exactly, don't use the lens of auto iris but use the lens of manual iris that is a C mount type.

4-1-2. Adjustment Fixtures and Equipment

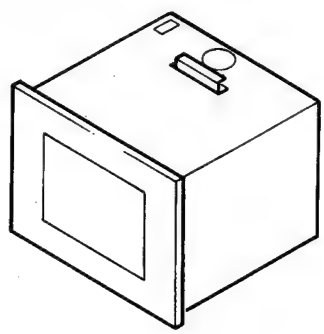
J-6028-450-A	Extension Board (EX-97)

- For MD-30, EN-40 board adjustment



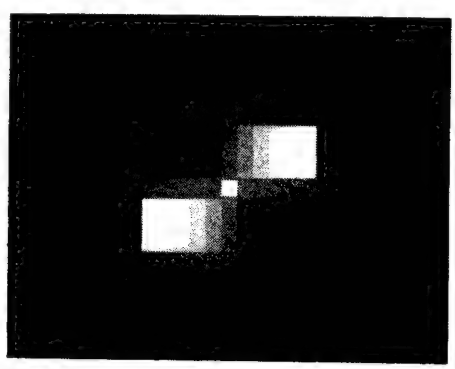
J-6029-140-A	Pattern Box PTB-500 (90 to 240 V)

- Light source for test charts



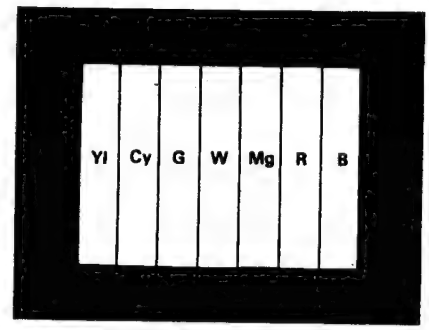
J-6026-130-A	Grayscale Chart

- For video level and gamma adjustment, etc.



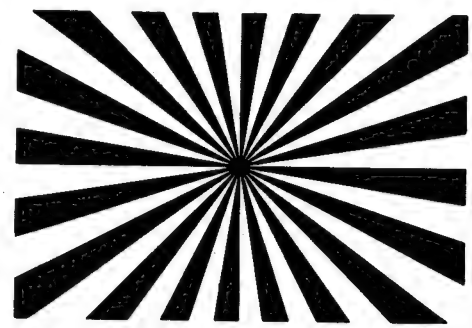
J-6020-250-A	Color Bar Chart

- For color adjustment.

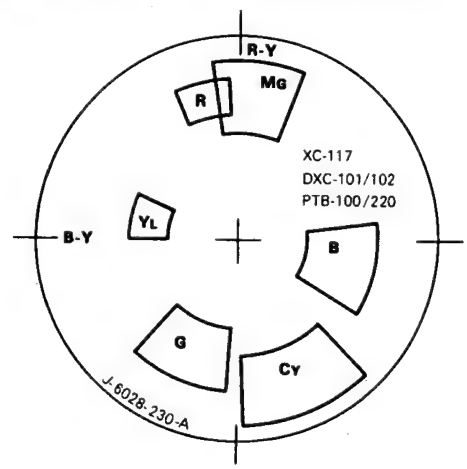


J-6024-340-B	Siemens Star chart

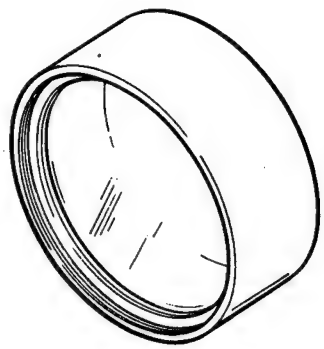
- For back focus adjustment



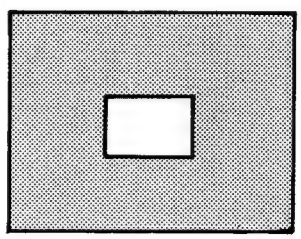
J-6028-230-A	Vectorscope Scale



J-6080-058-A J-6029-590-A	LB-140 filter LB-200 filter



White Window chart



Make a hole in the center of black paper as shown in the figure.

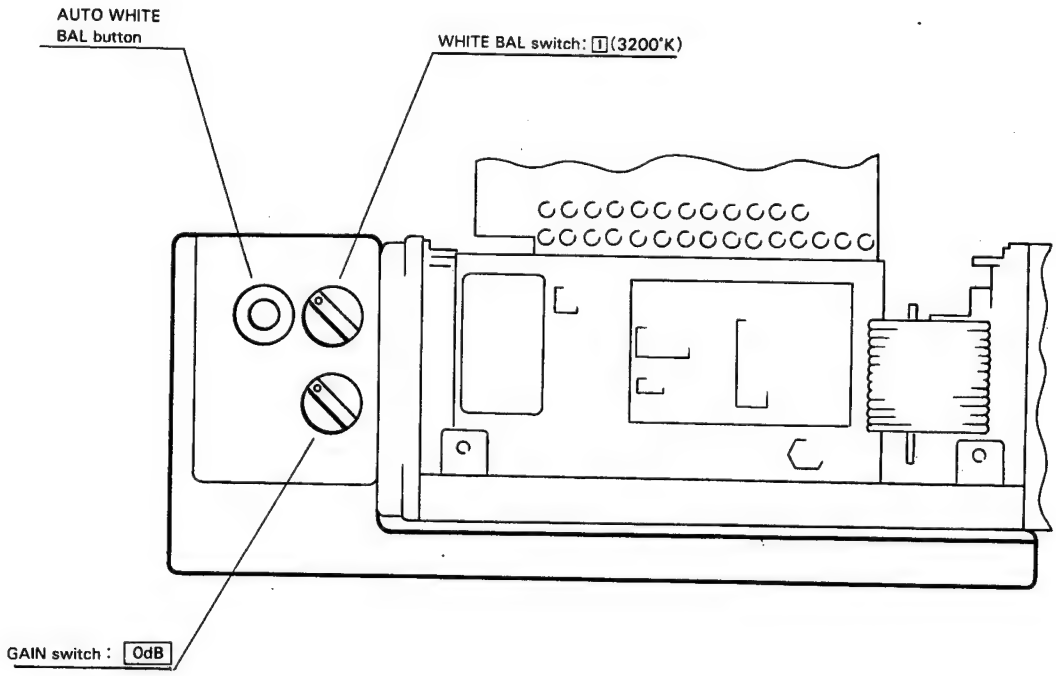
Commercial measuring equipment and fixture

- Dual Trace Oscilloscope
- Vectorscope
- Wareform Monitor (WFM)
- Frequency Counter
- Digital Voltmeter
- Color Monitor
- Lens (C mount and manual iris type)

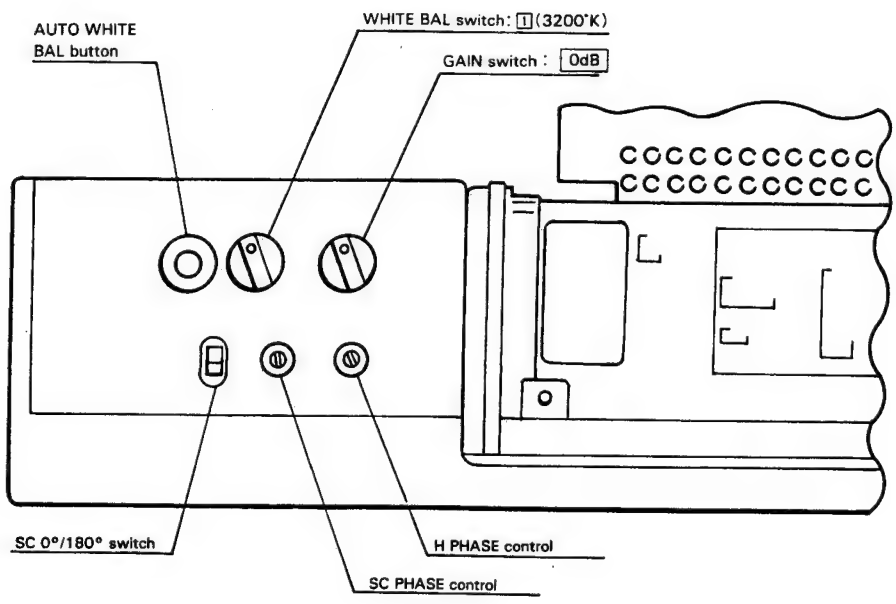
4-1-3 Switch Setting Position before Adjustment

Set the switches as follows:
GAIN switch: "0dB"
WHITE BAL switch: "1" (3200°K)

[DXC-101]



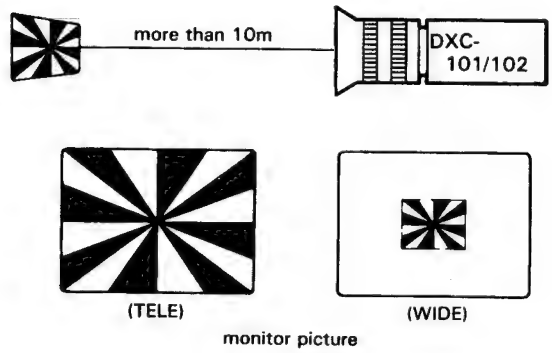
[DXC-102]

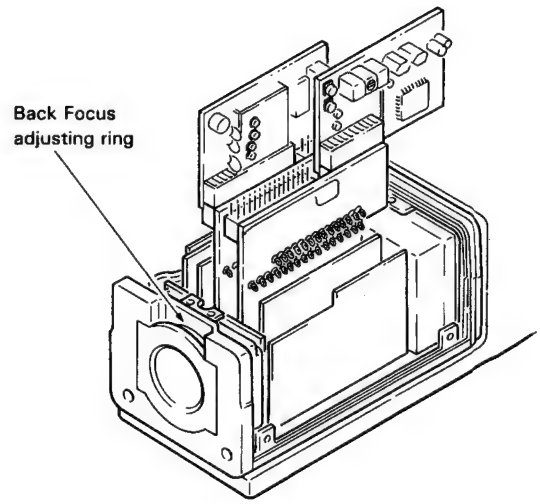


4-1-4. Mechanical Back Focus Adjustment

Subject: Siemens Star chart
Lens iris: Open
Adjust:

1. Set the zoom control at TELE so as to obtain the maximum multiplication factor. Optically focus the image so as to obtain the maximum resolution.
2. Set the zoom control at WIDE so as to obtain the minimum multiplication factor. Do not optically focus the image at this time.
   Check whether the image is focused on the monitor while turning the zoom control from TELE to WIDE.
   If the image is not focused, properly set at back focus as follows.
3. When the zooming mechanism is set at WIDE, turn the back focus adjusting ring.
4. Repeat step 1 through 3 several times.





4-2. POWER SUPPLY SYSTEM

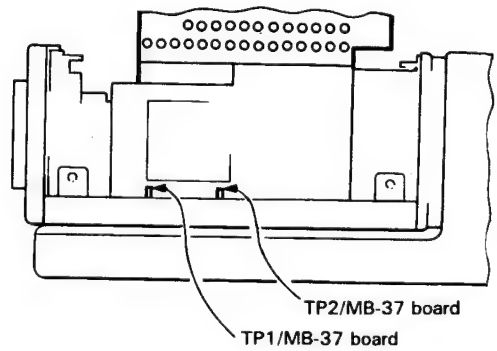
4-2-1. +12V Adjustment

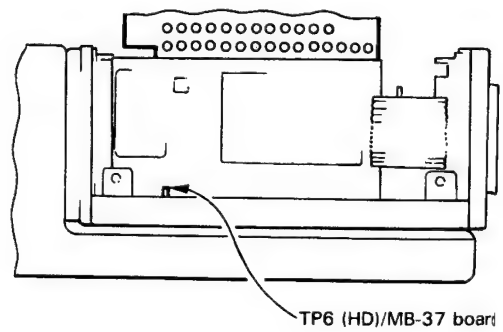
Equipment: Digital voltmeter
Test point: TP1 (GND: GND terminal/Extension board)/PG-12 board
Adj. point: ◐ RV1/RG-13 board
Spec.: +12V ± 0.1V

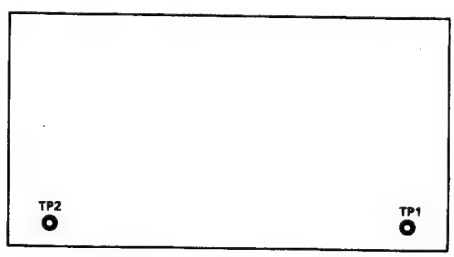
4-3. SYNC SYSTEM

4-3-1. Sub-carrier Frequency Adjustment

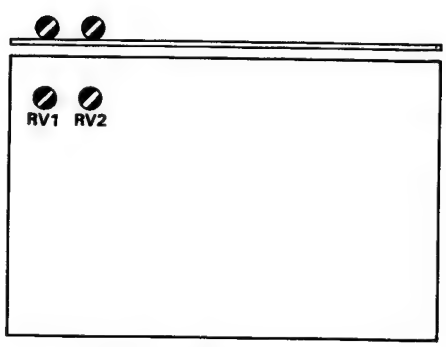
Equipment: Frequency counter
Test point: TP2 (GND: GND terminal/Extension board)/PG-12 board
Adj. point: ◐ RV2/RG-13 board
Spec.: 3,579,545 ± 5 Hz







PG-12 Board (Component Side)

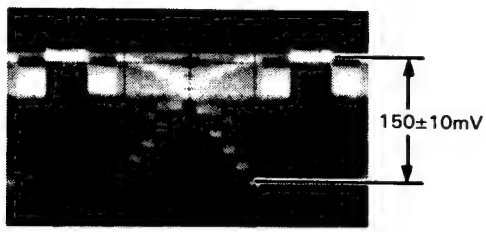


RG-13 Board (Component Side)

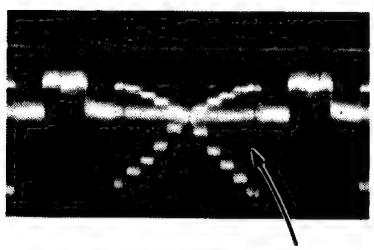
4-4. PROCESS SYSTEM

4-4-1. 0dB Video Level Adjustment

Subject: Grayscale chart
Equipment: Oscilloscope
Test point: TP1 (GND: TP2/MB-37)/MB-37 board
TP4 (GND: TP10/PR-72)/PR-72 board
Trigger: TP6 (HD)/MB-37 board
Adj. point: ◐RV1/PR-72 board
◐RV6/PR-72 board
Adjust: 1. Adjust the lens iris so that the video level at TP1/MB-37 board is 150 ± 10 mV.

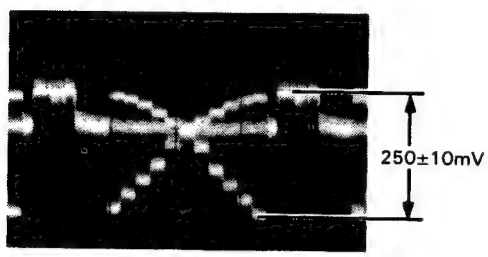


2. Adjust the ◐RV6/PR-72 board so that the flicker of the video waveform at TP4/PR-72 board is minimum overall.



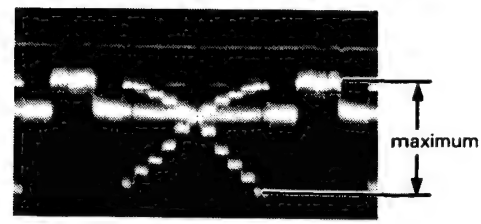
Flicker of the video waveform should be minimum overall.

3. Adjust the ◐RV1/PR-72 board so that the video level at TP4/PR-72 board is 250 ± 10 mV.

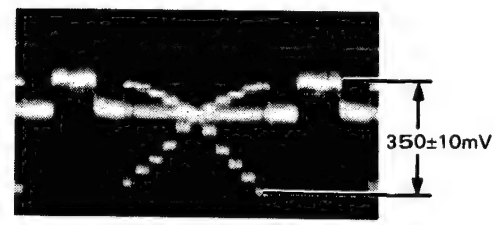


Note: If it is unable to accomplish this adjustment, be sure to carry out step 4 through 6 as follows.

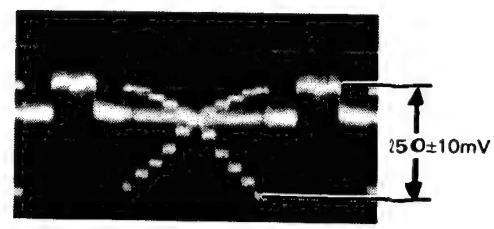
4. Preset the ◐RV1/PR-72 board so that the video level at TP4/PR-72 board is maximum.

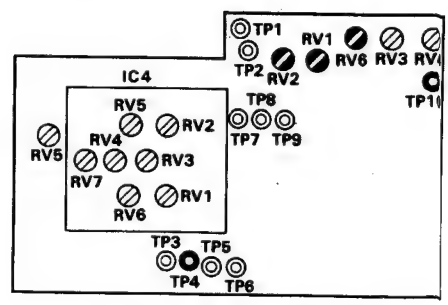


5. Adjust the ◐RV2/PR-72 board so that the video level at TP4/PR-72 board is 350 ± 10 mV.



6. Adjust the ◐RV1/PR-72 board so that the video level at TP4/PR-72 board is 250 ± 10 mV.





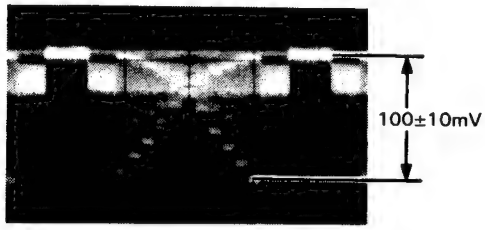
PR-72 Board (Component Side)

4-4-2. AGC Adjustment

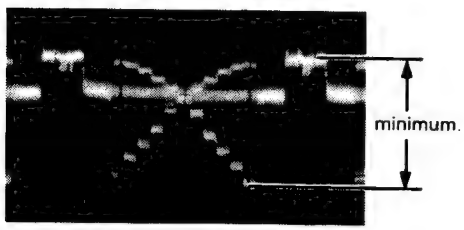
Subject: Grayscall chart
Equipment: Oscilloscope
Test point: TP1 (GND: TP2/MB-37)/MB-37 board
TP4 (GND: TP10/PR-72)/PR-72 board
Trigger: TP6 (HD)/MB-37 board
Adj. point: ◐ RV1/AT-40 board
◐ RV4/AT-40 board
◐ RV1/PR-72 board
◐ RV2/PR-72 board
Preparation: Switch setting
GAIN switch: "AUTO" position

Adjust:

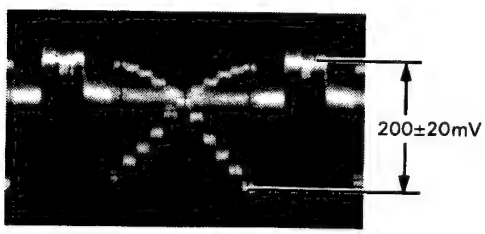
1. Adjust the lens iris so that the video level at TP1/MB-37 board is 100 ± 10 mV.



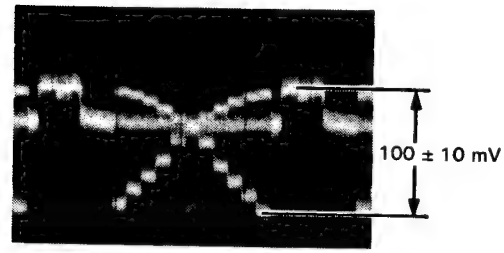
2. Turn the ◐ RV1/AT-40 board counter-clockwise ↺ so that the video level at TP4/PR-72 board is minimum.



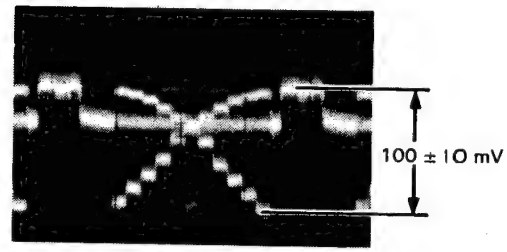
3. Adjust the ◐ RV4/AT-40 board so that the video level at TP4/PR-72 board is 200 ± 20 mV.



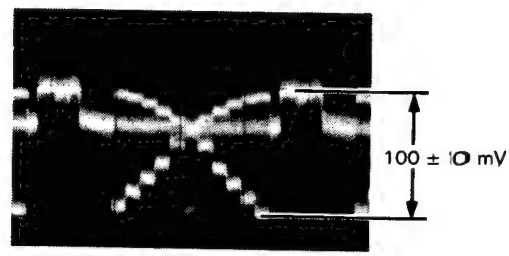
4. Set the GAIN switch at "12 dB".
5. Adjust the lens iris so that the video level at TP4/PR-72 board is 100 ± 10 mV.



6. Set the GAIN switch at "AUTO".
7. Adjust the ◐ RV2/PR-72 board so that the video level at TP4/PR-72 board is 100 ± 10 mV.

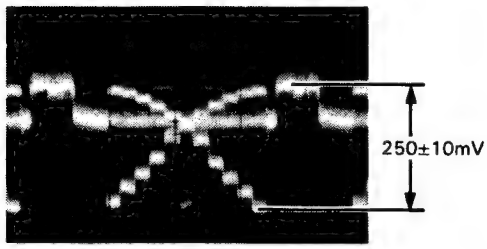


8. Set the GAIN switch at "12 dB".
9. Adjust the ◐ RV1/PR-72 board so that the video level at TP4/PR-72 board is 100 ± 10 mV.

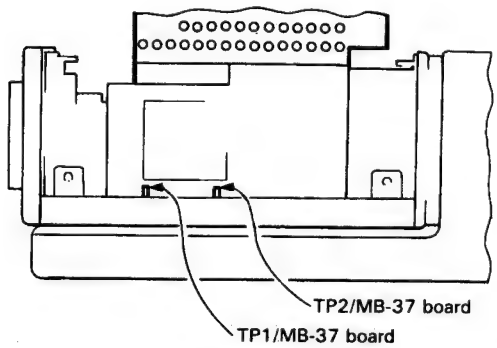


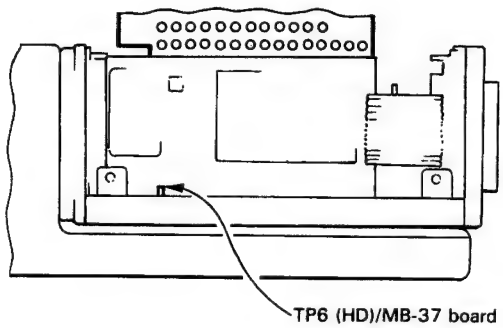
10. Set the GAIN switch at "AUTO".
11. Adjust the lens iris so that the video level at TP1/MB-37 board is 150 ± 10 mV.

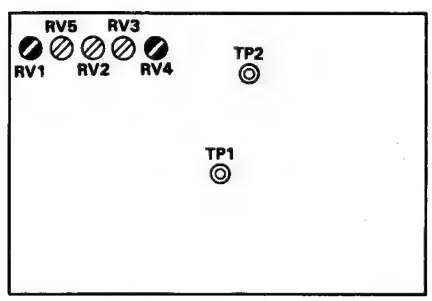
12. Adjust the ◐ RV1/AT-40 board so that the video level at TP4/PR-72 board is 250 ± 10 mV.



NOTE: When carring out this adjustment, be sure to Set the GAIN switch to "0" and carry out 4-5-1. 0dB Video Level Adjustment.





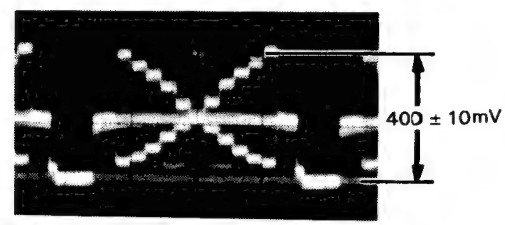


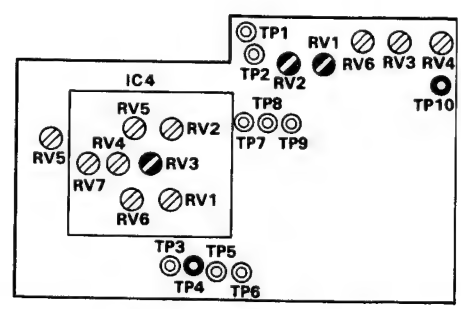
AT-40 Board (Component Side)

4-4-3. GAMMA Adjustment

Subject: Grayscale chart
Equipment: Oscilloscope
Test point: TP1 (GND: TP2/MB-37)/MB-37 board
CN1-A4 pin (GND: GND terminal/Extension board)/MD-30 board
Trigger: TP6 (HD)/MB-37 board
Adj. point: IC4- ◐RV3/PR-72 board
Adjust: 1. Adjust the lens iris so that the video level at TP1/MB-37 board is 150 ± 10 mV.

2. Adjust the IC4- ◐RV3/PR-72 board so that the level "A" at CN1-A4 pin/MD-30 board is 400 ± 10 mV.

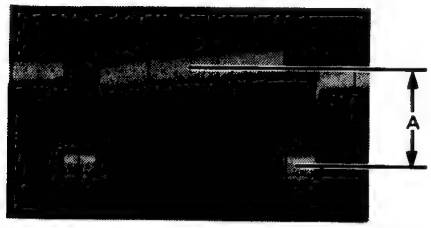


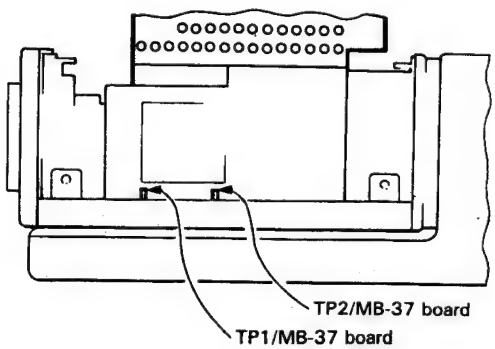


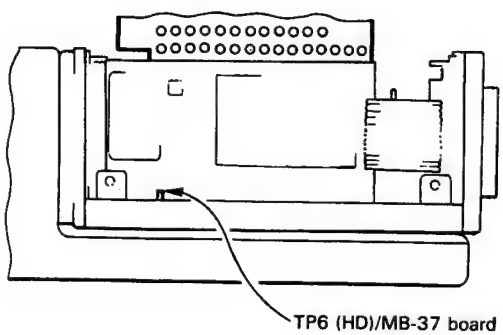
PR-72 Board (Component Side)

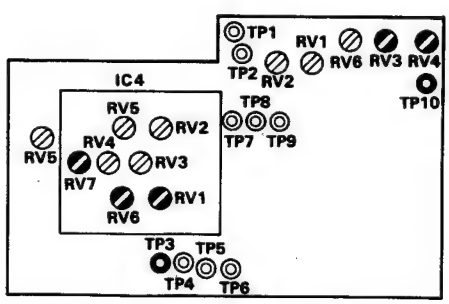
4-4-4. Pre-pedestal Adjustment

Lens: Closed "C"
Equipment: Oscilloscope
Test point: CN1-A4 pin (GND: GND terminal/Extension board)/MD-30 board
Trigger: TP6 (HD)/MB-37 board
Adj. point: IC4- ◐RV1/PR-72 board
Spec: A=50 ± 4 mV









PR-72 Board (Component Side)

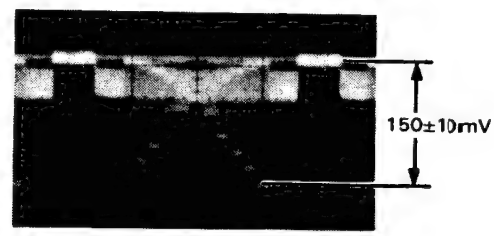
4-4-5. R/B Gain Adjustment

Subject: Grayscale chart
Equipment: Oscilloscope
Test point: TP1 (GND: TP2/MB-37)/MB-37 board
TP3 (GND: TP10/PR-72)/PR-72 board
Trigger: TP6 (HD)/MB-37 board
Adj. point: IC4- ◐RV6/PR-72 board
IC4- ◐RV7/PR-72 board
Preparation: 1. Set the ◐RV3, ◐RV4/PR-72 board to mechanicalcenter.

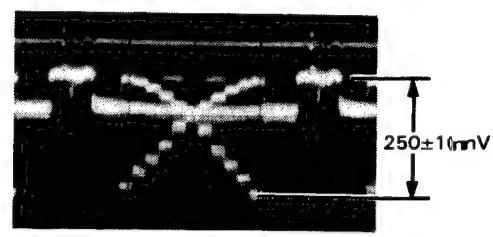
[Front View] [Top View]

2. Switch setting
WHITE BAL Switch: "3" position
3. Cover the LB140 filter in front of the lens.

Adjust: 1. Adjust the lens iris so that the video level at TP1/MB-37 board is 150 ± 10 mV.



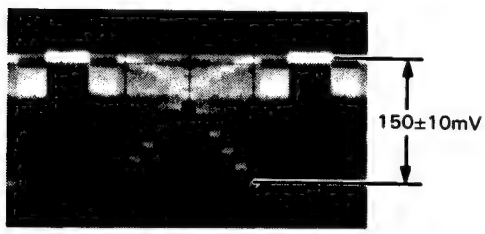
2. Adjust the IC4- ◐RV6, ◐RV7/PR-72 board so that the video level at TP3/PR-72 board is 250 ± 10 mV, and repeat this adjustment several times by turns.



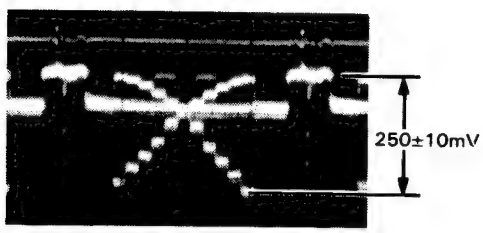
NOTE: After this adjustment, be sure to remove C14 filter attached the lens and return the WHITE BAL switch to "1".

4-4-6. 3200°K R/B Gain Ajustment

Subject: Grayscale chart
Equipment: Oscilloscope
Test point: TP1 (GND: TP2/MB-37)/MB-37 board
TP3 (GND: TP10/PR-72)/PR-72 board
Trigger: TP6 (HD)/MB-37 board
Adj. point: ◐ RV3/PR-72 board
◐ RV4/PR-72 board
Adjust: 1. Adjust the lens iris so that the video level at TP1/PR-72 board is 150 ± 10 mV.

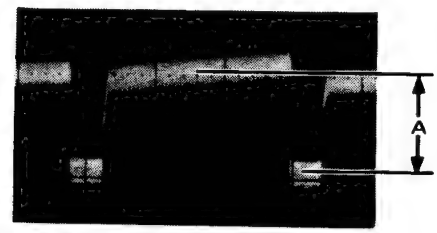


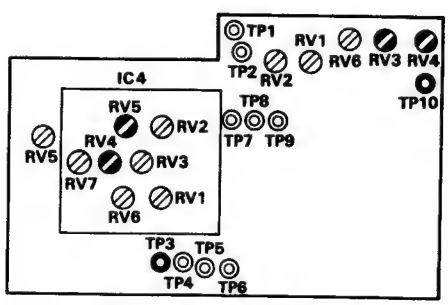
2. Adjust the ◐RV3, ◐RV4/PR-72 board so that the video level at TP3/PR-72 board is 250 ± 10 mV, and repeat this adjustment several times by turns.



4-4-7. R/B Offset Adjustment

Lens: Closed "C"
Equipment: Oscilloscope
Test point: CN1-B4 pin (GND: GND terminal/Extension board)/MD-30 board
Trigger: TP6 (HD)/MB-37 board
Adj. point: IC4- ◐RV4/PR-72 board
IC4- ◐RV5/PR-72 board
Spec: A=50 ± 4 mV

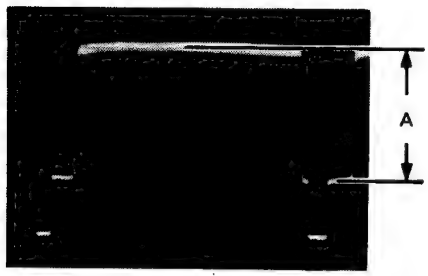




PR-72 Board (Component Side)

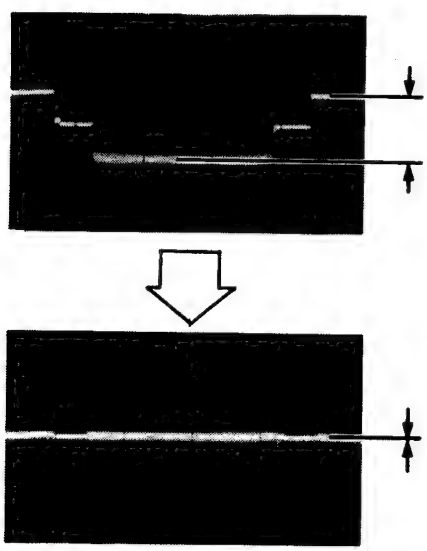
4-4-8. Auto White Balance Adjustment

Subject: White window chart
Equipment: Waveform Monitor and Oscilloscope
Adj. point: ◐ RV2/AT-40 board
◐ RV3/AT-40 board
Preparation: 1. RESPONSE switch of WFM
→ "LUM" position
2. Cover the LB200 filter in front of the lens.
Adjust: 1. Test point: VIDEO OUT
Adj. point: lens iris
Spec.:A = 50 ± 5 IRE.



2. Set the WHITE BAL switch at "AUTO".

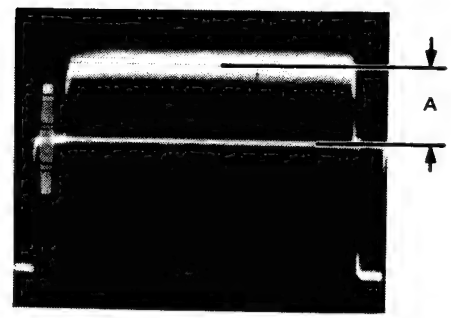
3. Equipment: Oscilloscope
Test point: CH1 CN1-A4 pin/MD 30 board
CH2 CN1-B4 pin/MD-30 board
(Set the vertical deflections of CH1 CH2 at the same DC voltage range.)
Mode: ADD mode (CH2 is "INVERT".)
Trigger: TP6 (HD)/MB-37 board
Adj. point: ◐ RV2/AT-40 board
◐ RV3/AT-40 board
Adjust: Adjust so that the wareform is flat, when the AUTO WHITE BAL button is pushed.



4. Repeat step3. several times.

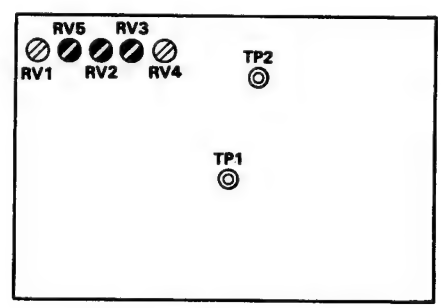
4-4-9. LOW LIGHT Adjustment

Subject: White Window chart
Equipment: Waveform Monitor
Test point: VIDEO OUT
AUTO W/B Indication LED
Adj. point: ◐ RV5/AT-40 board
Preparation: Set the WHITE BAL switch at "AUTO".
Adjust: 1. Adj. point: lens iris
Spec.:A = 30 ± 5 IRE.



2. Adjust the ◐ RV5/AT-40 board so that the AUTO W/B Indication LED does not illuminate in spite of pushing the AUTO W/B button.

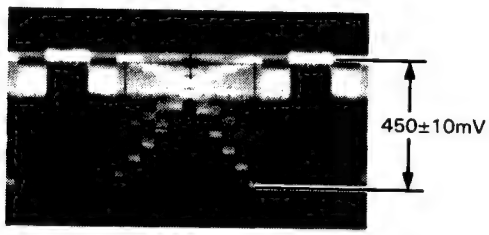
Note: After this adjustment, be sure to set the WHITE BAL switch at "1".



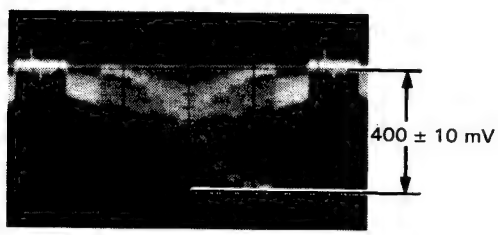
AT-40 Board (Component Side)

4-4-10. Video Clip Adjustment

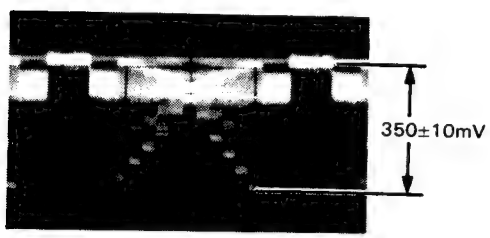
Subject: Grayscale chart
Equipment: Oscilloscope
Test point: TP1 (GND: TP2/MB-37)/MB-37 board
IC4-26 pin (GND: TP10/PR-72)/PR-72 board
TP7 (GND: TP10/PR-72)/PR-72 board
Trigger: TP6 (HD)/MB-37 board
Adj. point: ◐RV5/PR-72 board
IC4- ◐RV2/PR-72 board
Adjust: 1. Adjust the lens iris so that the video level at TP1/MB-37 board is 450 ± 10 mV.



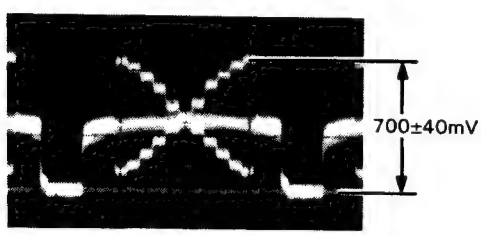
2. Adjust the ◐RV5/PR-72 board so that the video level at IC4-26 pin/PR-72 board clips at 400 ± 10 mV.

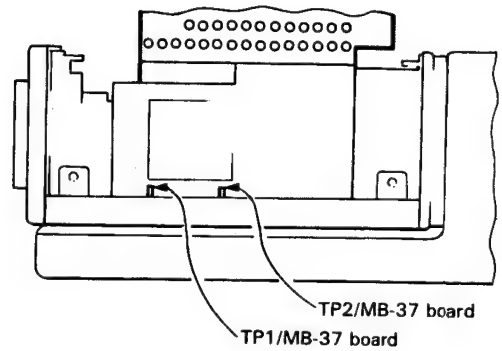


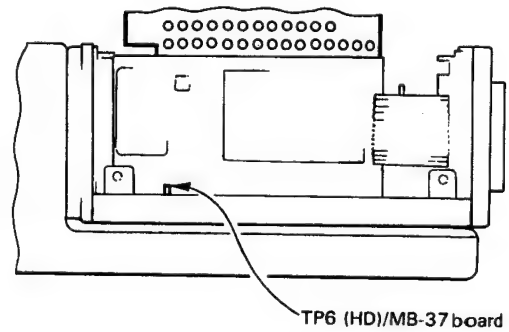
3. Adjust the lens iris so that the video level at TP1/MB-37 board is 350 ± 10 mV.

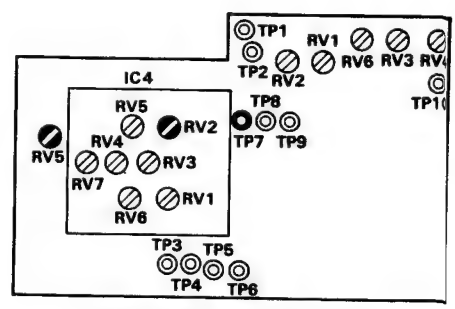


4. Adjust the IC4- ◐RV2/PR-72 board so that the video level at TP7/PR-72 board is 700 ± 40 mV.





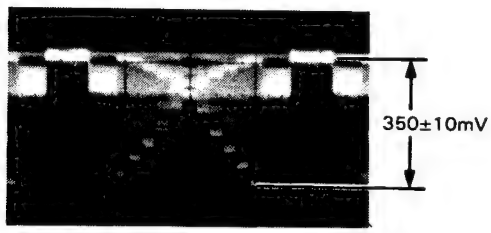




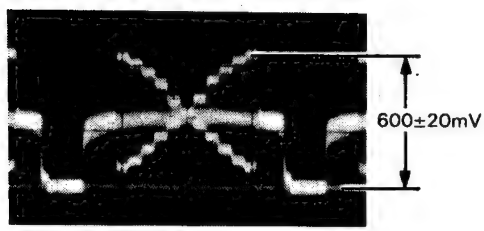
PR-72 Board (Component Side)

4-4-11. G KNEE Adjustment

Subject: Grayscale chart
Equipment: Oscilloscope
Test point: TP1 (GND: TP2/MB-37)/MB-37 board
TP1 (GND: GND terminal/Extension board)/MD-30 board
Trigger: TP6 (HD)/MB-37 board
Adj. point: ◐ RV1/MD-30 board
Adjust: 1. Adjust the lens iris so that the video level at TP1/MB-37 board is 350 ± 10 mV.

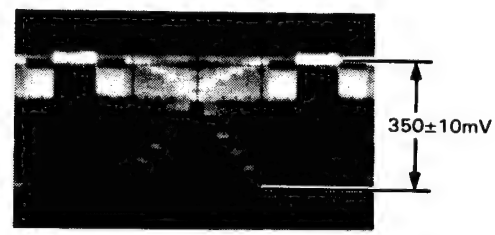


2. Adjust the ◐RV1/MD-30 board so that the video level at TP1/MD-30 board is 600 ± 20 mV.

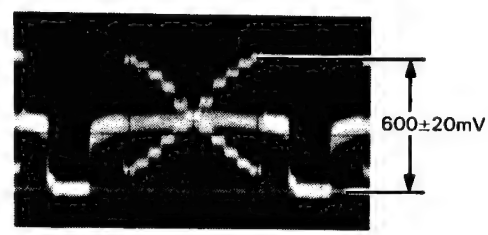


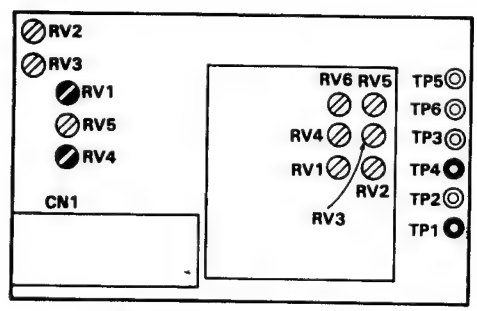
4-4-12. R/B KNEE Adjustment

Subject: Grayscale chart
Equipment: Oscilloscope
Test point: TP1 (GND: TP2/MB-37)/MB-37 board
TP4 (GND: GND terminal/Extension board)/MD-30 board
Trigger: TP6 (HD)/MB-37 board
Adj. point: ◐ RV4/MD-30 board
Adjust: 1. Adjust the lens iris so that the video level at TP1/MB-37 board is 350 ± 10 mV.



2. Adjust the ◐RV4/MD-30 board so that the video level at TP4/MD-30 board is 600 ± 20 mV.



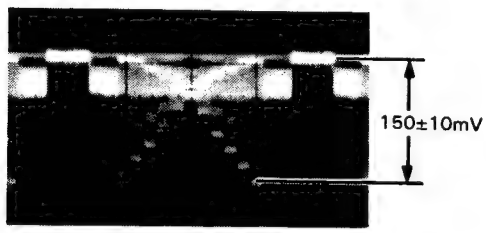


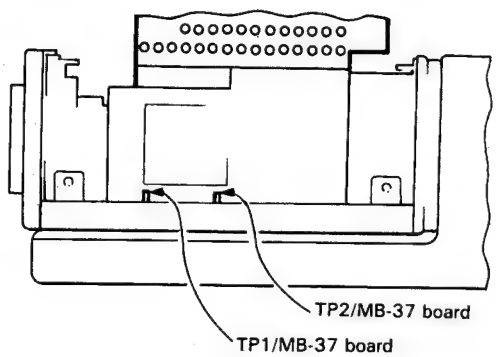
MD-30 Board (Component Side)

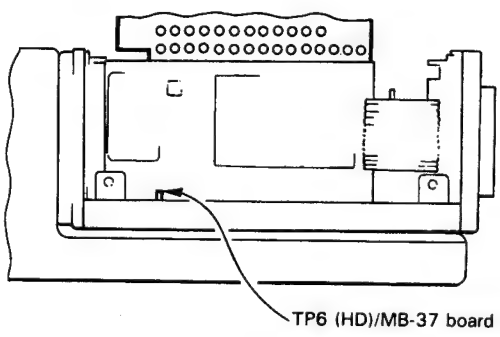
4-5. VIDEO OUT SYSTEM

4-5-1. RB0/RB1/RB2 Adjustment

Subject: Grayscale chart
Equipment: Oscilloscope
Test point: TP1/MB-37 board
TP4/MD-30 board
TP5/MD-30 board
TP6/MD-30 board
(GND: TP2/MB-37 or GND terminal/Extension board)
Trigger: TP6 (HD)/MB-37 board
Adj. point: IC2- ◐ RV2/MD-30 board
IC2- ◐ RV4/MD-30 board
Adjust: 1. Adjust the lens iris so that the video level at TP1/MB-37 board is 150 ± 10 mV.

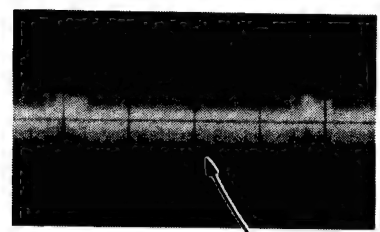




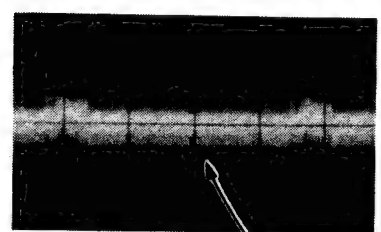


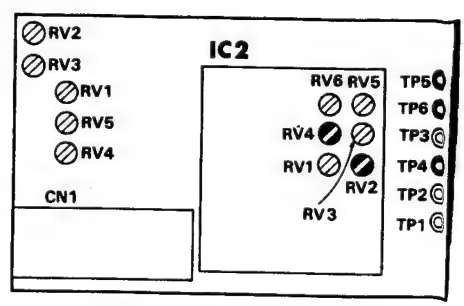
2. Test point: CH1 TP5/MD-30 Board
CH2 TP4/MD-30 Board
CH2: "INVERT"
Mode: ADD mode
DC range: 50 mV/Div (Set the vertical deflections of CH 1 and CH 2 at the same DC voltage range.)

3. Adjust the IC2- ◐ RV2/MD-30 board so that the waveform is flat.



4. Test point: CH1 TP6/MD-30 board
CH2 TP4/MD-30 board
CH2: "INVERT"
Mode: ADD mode
5. Adjust the IC2- ◐ RV4/MD-30 board so that the waveform is flat.

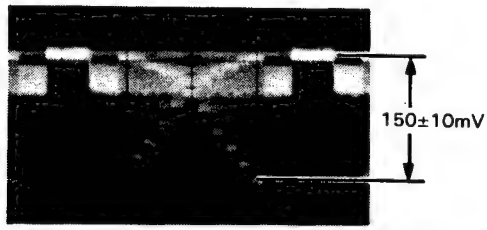




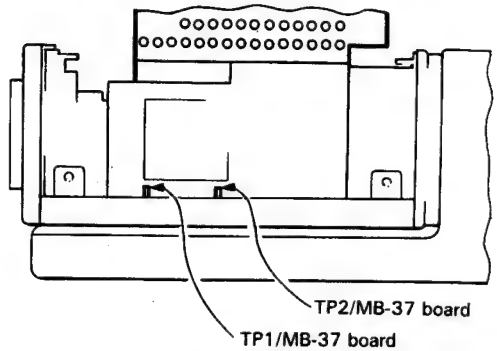
MD-30 Board (Component Side)

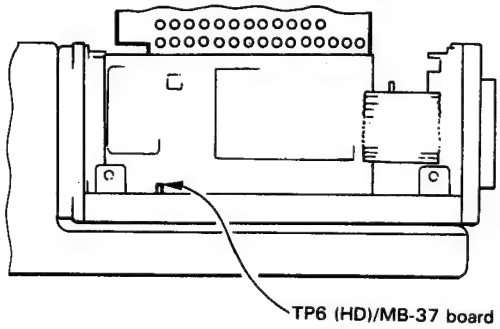
4-5-2. G0/G1/G2 Adjustment

Subject: Grayscale chart
Equipment: Oscilloscope
Test point: TP1/MB-37 board
TP1/MD-30 board
TP2/MD-30 board
TP3/MD-30 board
(GND: TP10/PR-72 or GND terminal/Extension board)
Trigger: TP6 (HD)/MB-37 board
Adj. point: IC2- ◐ RV1/MD-30 board
IC2- ◐ RV3/MD-30 board
Adjust: 1. Adjust the lens iris so that the video level at TP1/MB-37 board is 150 ± 10 mV.

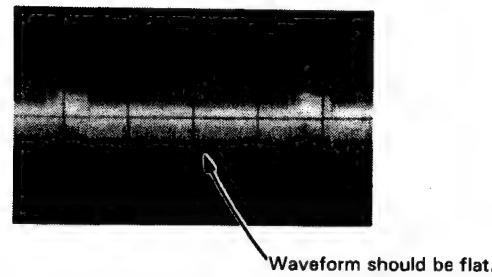


2. Test point: CH1 TP2/MD-30 board
CH2 TP1/MD-30 board
CH2: "INVERT"
Mode: ADD mode
DC range: 50 mV/Div (Set the vertical deflections of CH1 and CH2 at the same DC voltage range.)

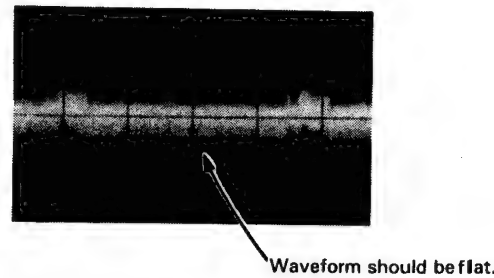


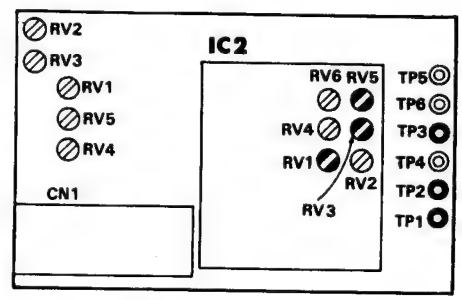


3. Adjust the IC2- ◐ RV1/MD-30 board so that the waveform is flat.

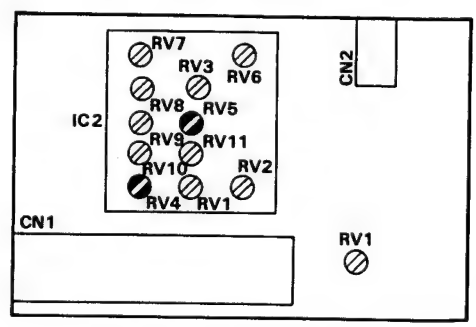


4. Test point: CH1 TP3/MD-30 board
CH2 TP1/MD-30 board
CH2: "INVERT"
Mode: ADD mode
5. Adjust the IC2- ◐ RV3/MD-30 board so that the waveform is flat.





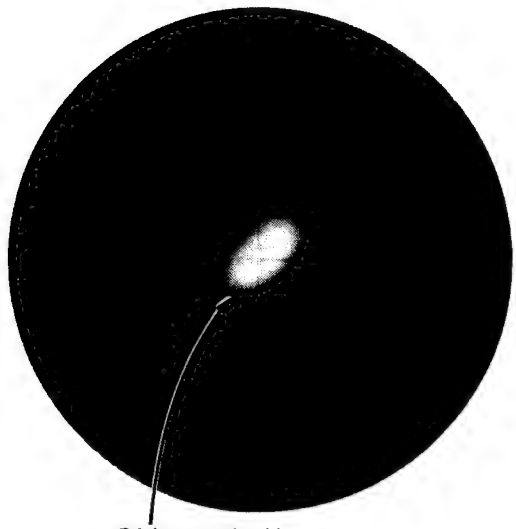
MD-30 Board (Component Side)



EN-40 Board (Component Side)

4-5-3. MPX DC Adjustment

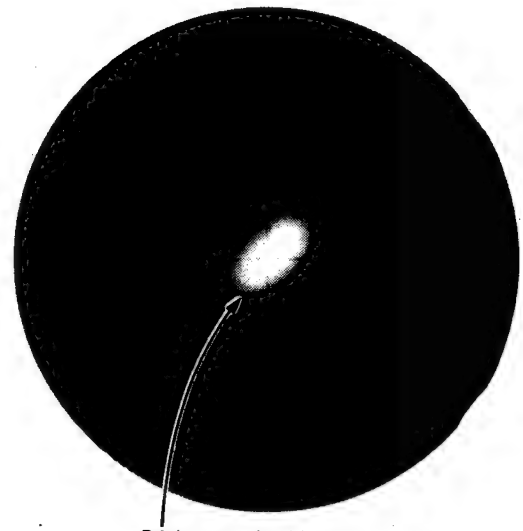
Lens iris: Closed "C"
Equipment: Vectorscope "MAX GAIN"
Adj. point: IC2- ◐ RV5/MD-30 board
Adjust: Adjust the IC2- ◐ RV5/MD-30 board so that the bright spot at vectorscope screen becomes one dot.



Bright spot should be one dod.

4-5-4. Carrier Balance Adjustment

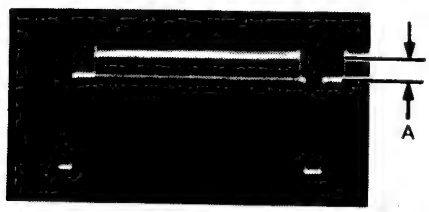
Lens iris: Closed "C"
Equipment: Vectorscope "MAX GAIN"
Adj. point: IC2- ◐ RV4/EN-40 board
IC2- ◐ RV5/EN-40 board
Adjust: Adjust the IC2- ◐ RV4, ◐ RV5/EN-40 board by turns several times till the bright spot is at the center of the vectorscope screen.

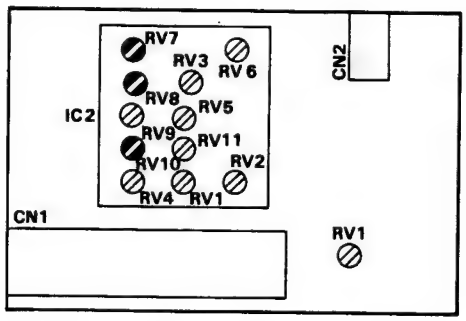


Bright spot should be at the center of the vectorscope screen.

4-5-5. Pedestal Level Adjustment

Lens iris: Closed "C"
Equipment: Waveform monitor
Adj. point: IC2- ◐RV8/EN-40 board
Preparation: RESPONSE switch of Waveform monitor → "LUM" position
Spec.: A=7.5 ± 1 IRE

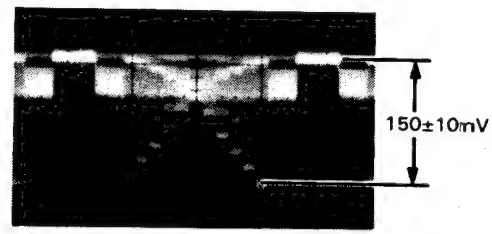




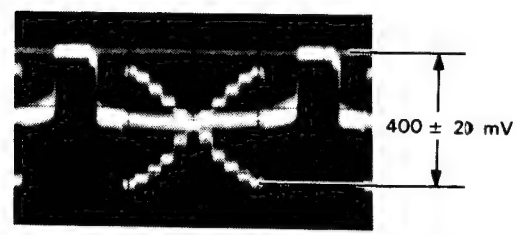
EN-40 Board (Component Side)

4-5-6. Y Level Adjustment

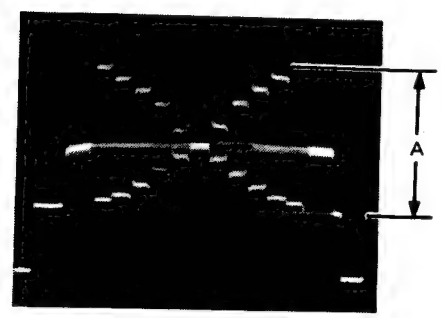
Subject: Grayscale chart
Equipment: Oscilloscope and WFM
Test point: TP1 (GND: TP2/MB-37)/MB-37 board
IC2-24pin (GND: GND terminal/Extension board)/EN-40 board
VIDEO OUT
Trigger: TP6 (HD)/MB-37 board
Adj. point: IC2- ◐RV7/EN-40 board
IC2- ◐RV10/EN-40 board
Preparation: RESPONSE switch of WFM → "LUM" position
Adjust: 1. Adjust the lens iris so that the video level at TP1/MB-37 board is 150 ± 10 mV.



2. Adjust the IC2- ◐RV7/EN-40 board so that the video level at IC2-24pin//EN-40 board is 400 ± 20 mV.

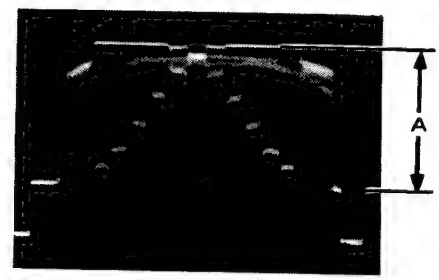


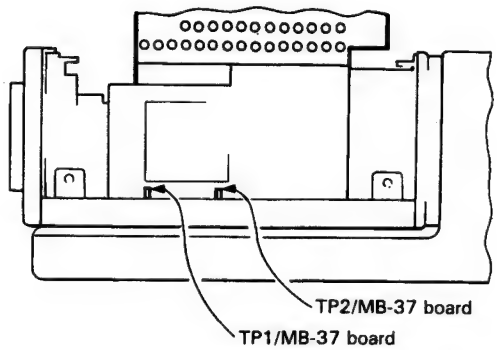
3. Test point: VIDEO OUT
Adj. point: IC2- ◐RV10/EN-40 board
Spec.: A = 100 ± 5 IRE

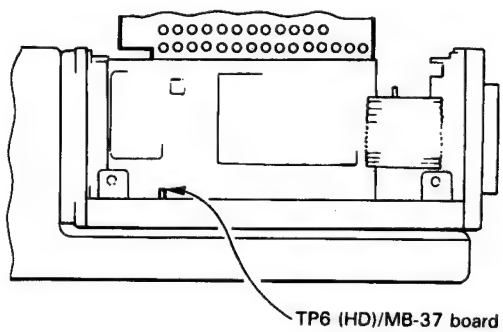


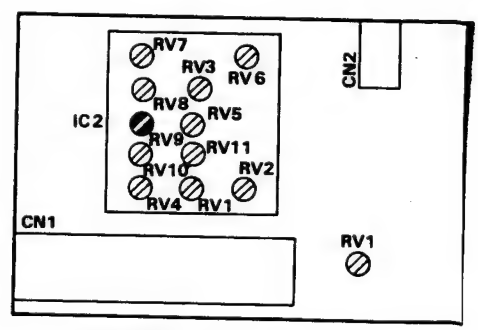
4-5-7. White Clip Adjustment

Subject: Grayscale chart
Lens iris: F2.0
Equipment: Waveform monitor (WFM)
Adj. point: IC2- ◐RV9/EN-40 board
Adjust: Adjust the IC2- ◐RV9/EN-40 board so that the video waveform clips at Specification.
Spec.: A=120 ± 10 IRE









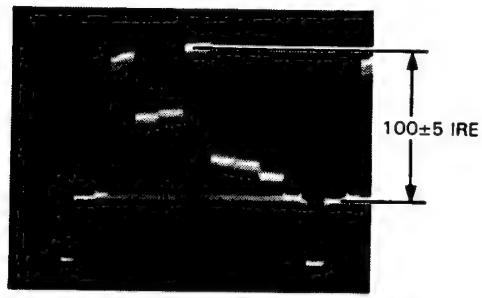
EN-40 Board (Component Side)

4-5-8. Color Vector Adjustment

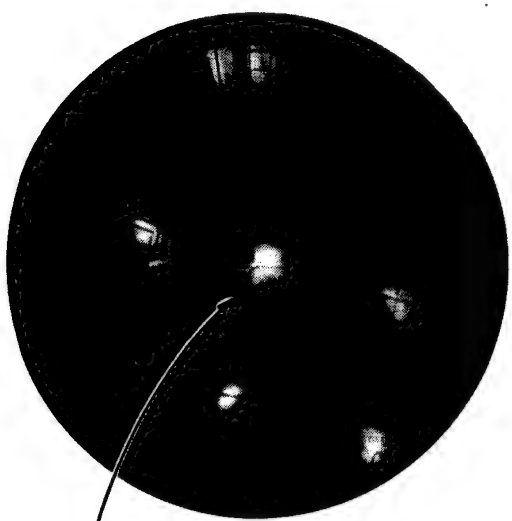
Subject: Color Bar chart
Equipment: WFM and Vectorscope
Adj. point: VIDEO OUT
Preparation: RESPONSE switch of WFM → "LUM" position

Adjust:

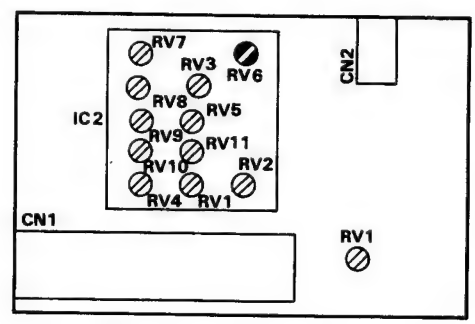
1. Adjust the lens iris so that the VIDEO OUT level is 100 ± 5 IRE.



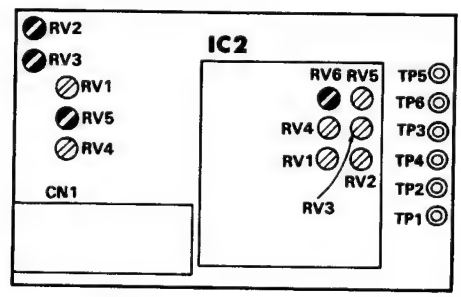
2. When the white balance is not adjusted, set the WHITE BAL switch at "AUTO" position, and push the AUTO WHITE BAL button.



3. Adjust the following ⊘ RVs by turns several times till the respective spots conform to the Spec.
   - ⊘ RV2/MD-30 board
   - ⊘ RV3/MD-30 board
   - ⊘ RV5/MD-30 board
   - IC2- ⊘ RV6/EN-40 board
   - IC2- ⊘ RV6/MD-30 board



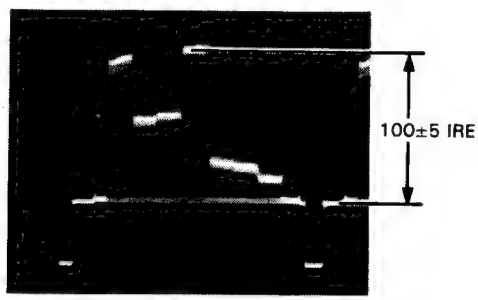
EN-40 Board (Component Side)



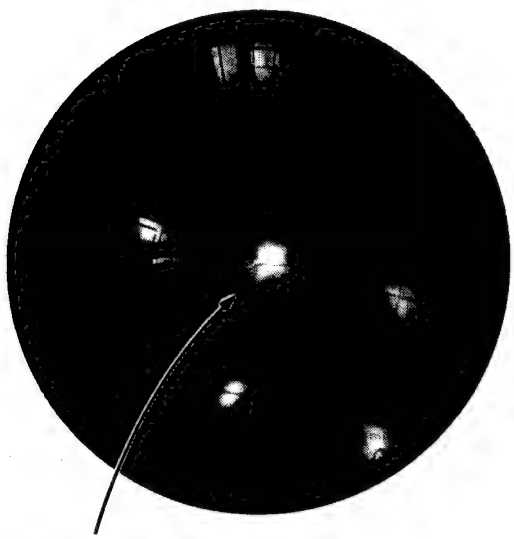
MD-30 Board (Component Side)

4-5-9. Chroma Suppress Adjustment

Subject: Color Bar chart
Equipment: WFM and Vectorscope
Test point: VIDEO OUT
Preparation: RESPONSE switch of WFM
→ "LUM" position
Adj. point: ⊘ RV1/EN-40 board
Adjust: 1. Adjust the lens iris so that the VIDEO OUT level is 100 ± 5 IRE.

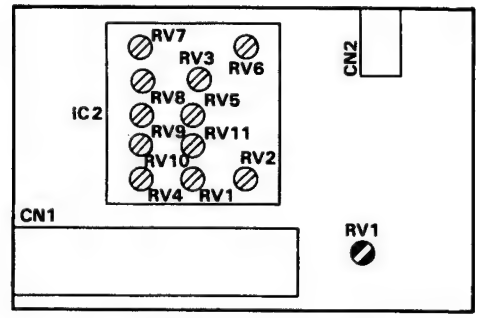


2. Set the GAIN switch at "6dB".
3. Adjust the ⊘ RV1/EN-40 board so that the white signal spot is at the center of the vectorscope screen.



White signal spot should be at the center of the vectorscope screen.

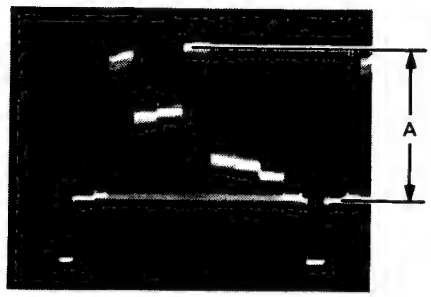
Note: After this adjustment, be sure to set the GAIN switch at "0dB".



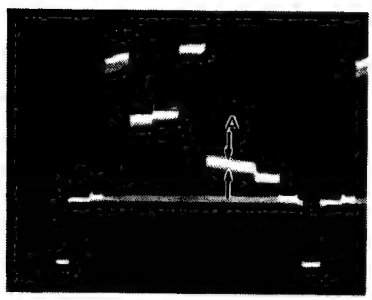
EN-40 Board (Component Side)

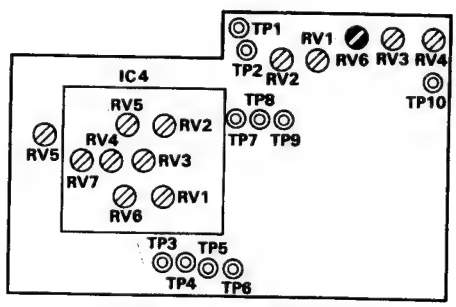
4-5-10. Mixed Color Correction Adjustment

Subject: Grayscale chart
Equipment: WFM
Test point: VIDEO OUT
Adj. point: ◐ RV6/PR-72 board
Preparation: RESPONSE switch of WFM → "LUM" position
Adjust: 1. Adj. point: lens iris
Spec.: A = 700 ± 10 mV



2. GAIN switch of WFM → MAX GAIN
3. Adjust the ◐ RV6/PR-72 board so that level "A" at WFM is less than 36mV.

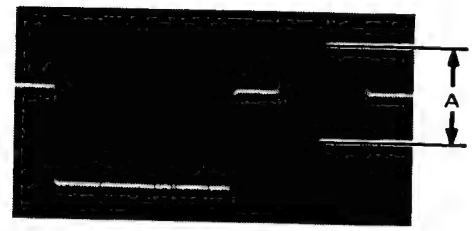


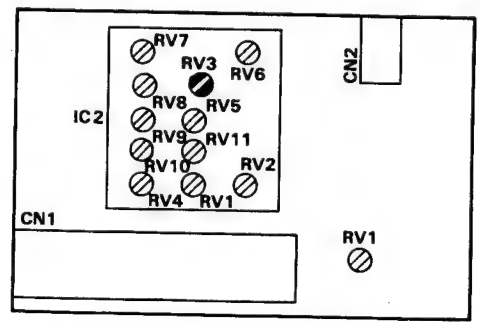


PR-72 Board (Component Side)

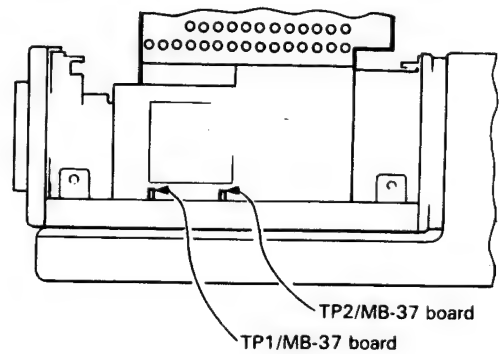
4-5-11. Bust Level Adjustment

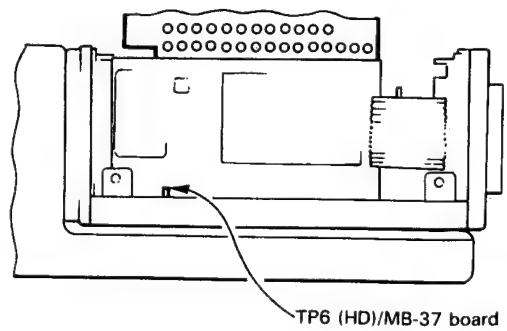
Equipment: Waveform monitor (WFM)
Adj. point: IC2- ◐ RV3/EN-40 board
Preparation: RESPONSE switch of WFM → "FLAT" position
Spec.: A=300 ± 15 mV





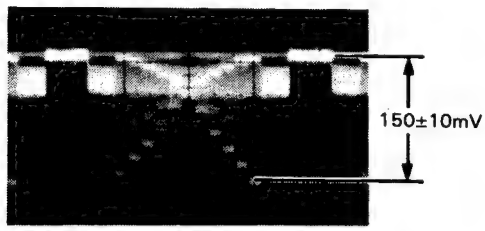
EN-40 Board (Component Side)



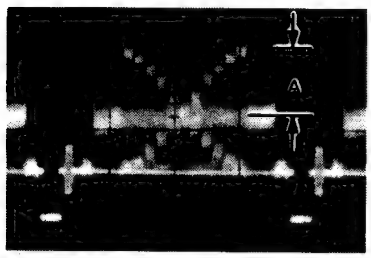


4-5-12. Aperture Adjustment

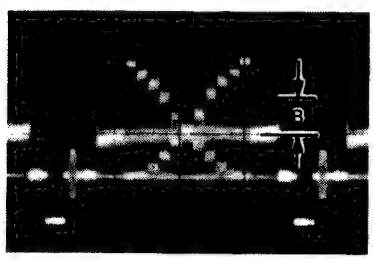
NOTE: During this adjustment, make sure that the lens is just focused as the aperture level will vary with lens focus.
Subject: Grayscale chart
Equipment: Oscilloscope
Test point: TP1 (GND: TP2/MB-37)/MB-37 board
CN1-A4 pin (GND: GND terminal/Extension board)/EN-40 board
Trigger: TP6 (HD)/MB-37 board
Adj. point: IC2- ◐ RV1/EN-40 board
IC2- ◐ RV2/EN-40 board
Adjust: 1. Adjust the lens iris so that video level at TP1/MB-37 board is 150 ± 10 mV.



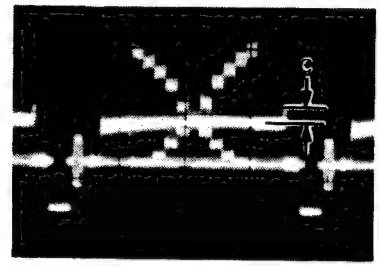
2. Preset the IC2- ◐ RV1/EN-40 board so that the level "A" at CN1-A14 pin/EN-40 board is maximum.

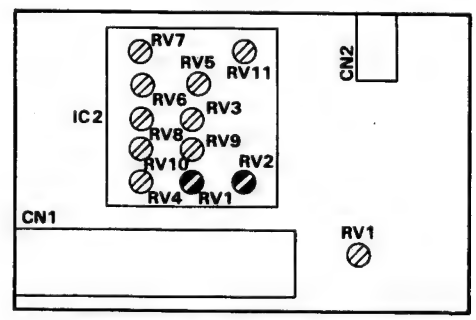


3. Adjust the IC2- ◐ RV2/EN-40 board so that the level "B" at CN1-A4 pin/EN-40 board is 200 ± 20 mV.

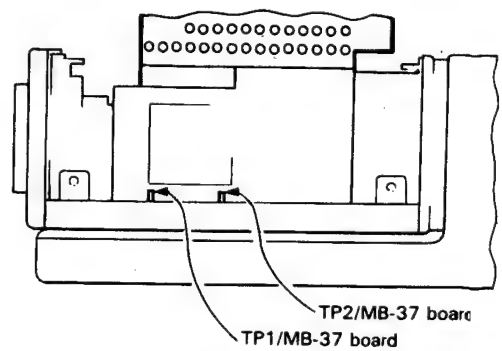


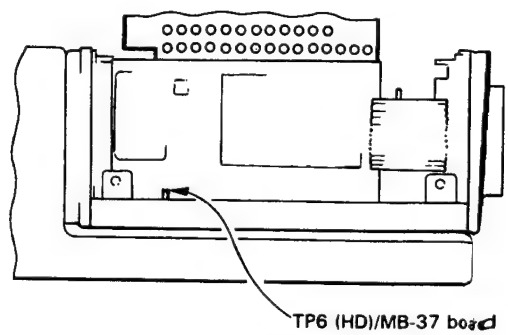
4. Adjust the IC2- ◐ RV1/EN-40 board so that the level "C" at CN1-A4 pin/EN-40 board is 100 ± 20 mV.





EN-40 Board (Component Side)

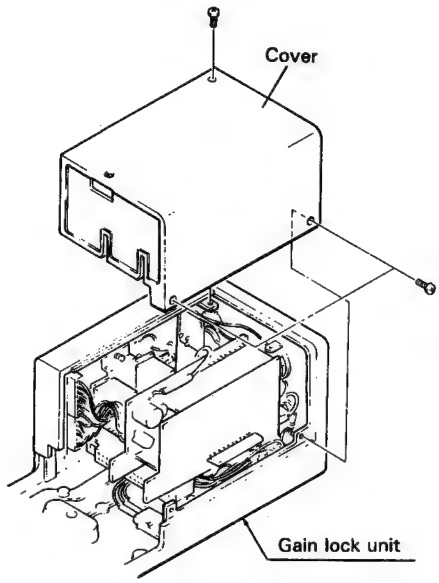




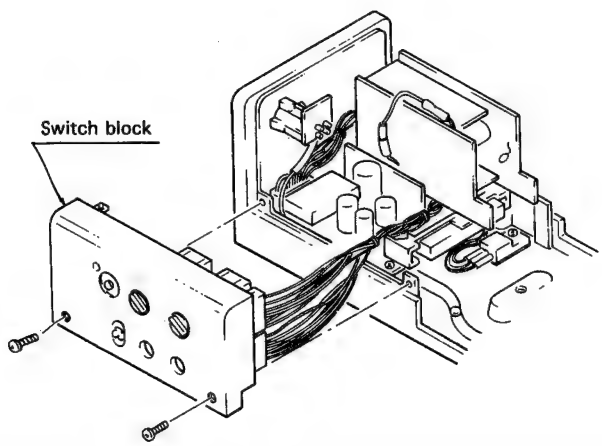
4-5-13. Video DC Level Adjustment (DXC-102 only)

Preparations:
Disassemble the gain lock unit as follows:

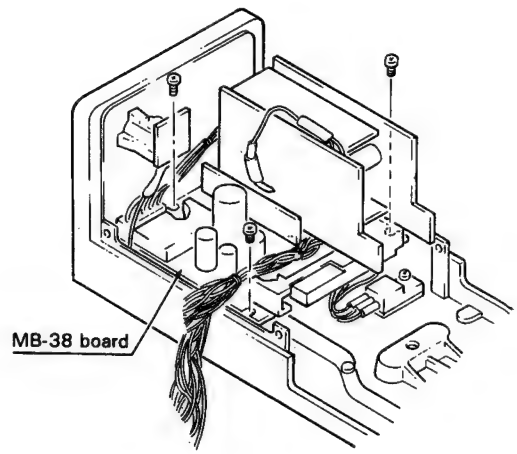
1. Remove the three camera unit fixing screws (one at the top and two at the bottom), then remove the camera unit from the gain lock unit.
2. Remove the three cover fixing screws from the gain lock unit, then remove the cover.



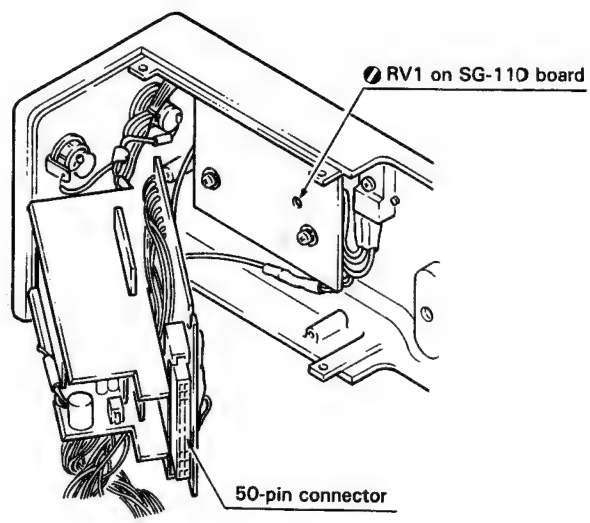
3. Remove the two switch block fixing screws, then remove the switch block. (Do not remove the connectors from the unit.)



4. Remove the three MB-38 board fixing screws, then remove the board. (Do not remove the connectors from the unit.)



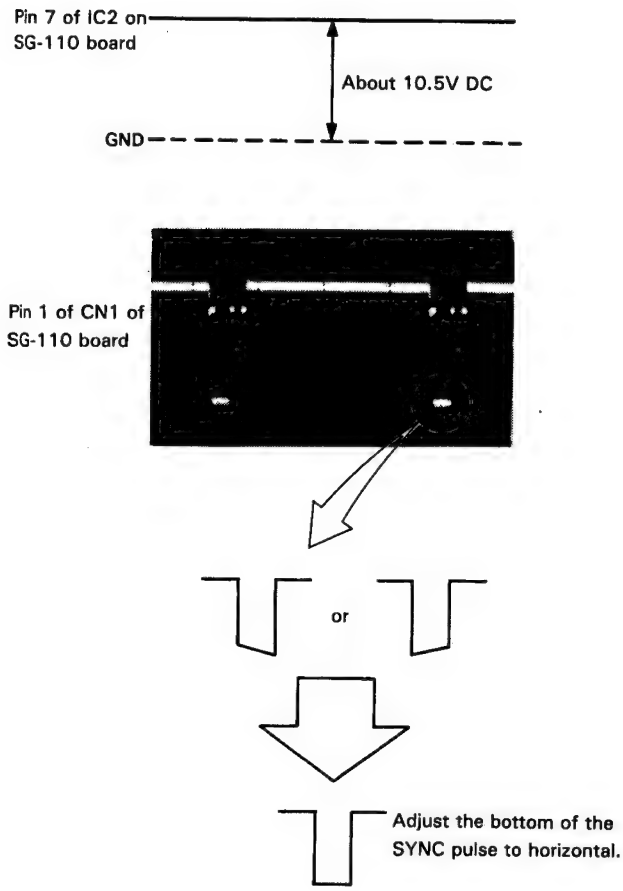
5. Place the gain lock unit vertically as shown below:



Notes:

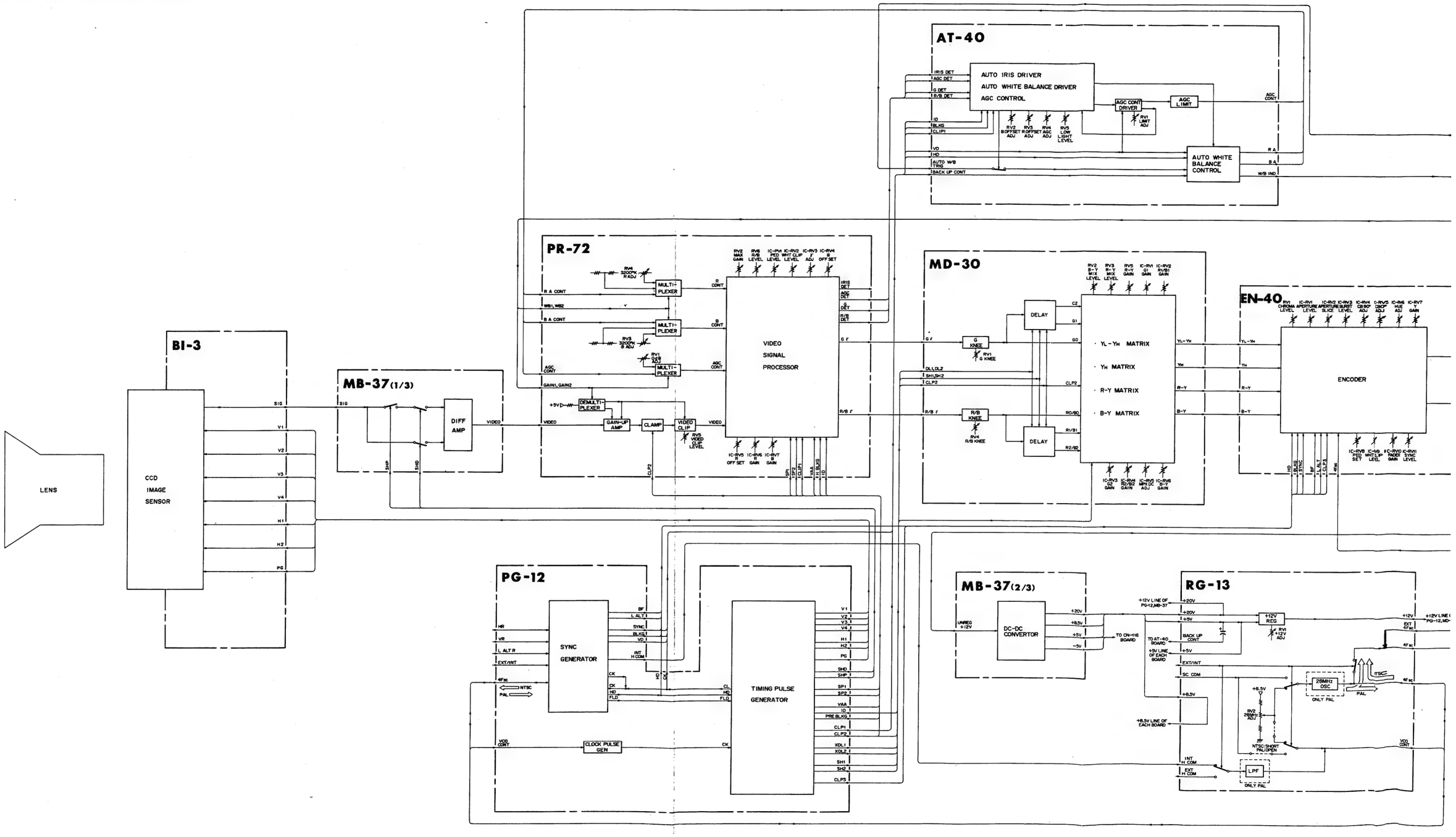
- Before adjustment, connect the 50-pin connector of the MB-38 board to its counterpart on the camera unit.
- To assemble the gain lock unit, follow the disassembly procedure in reverse order.

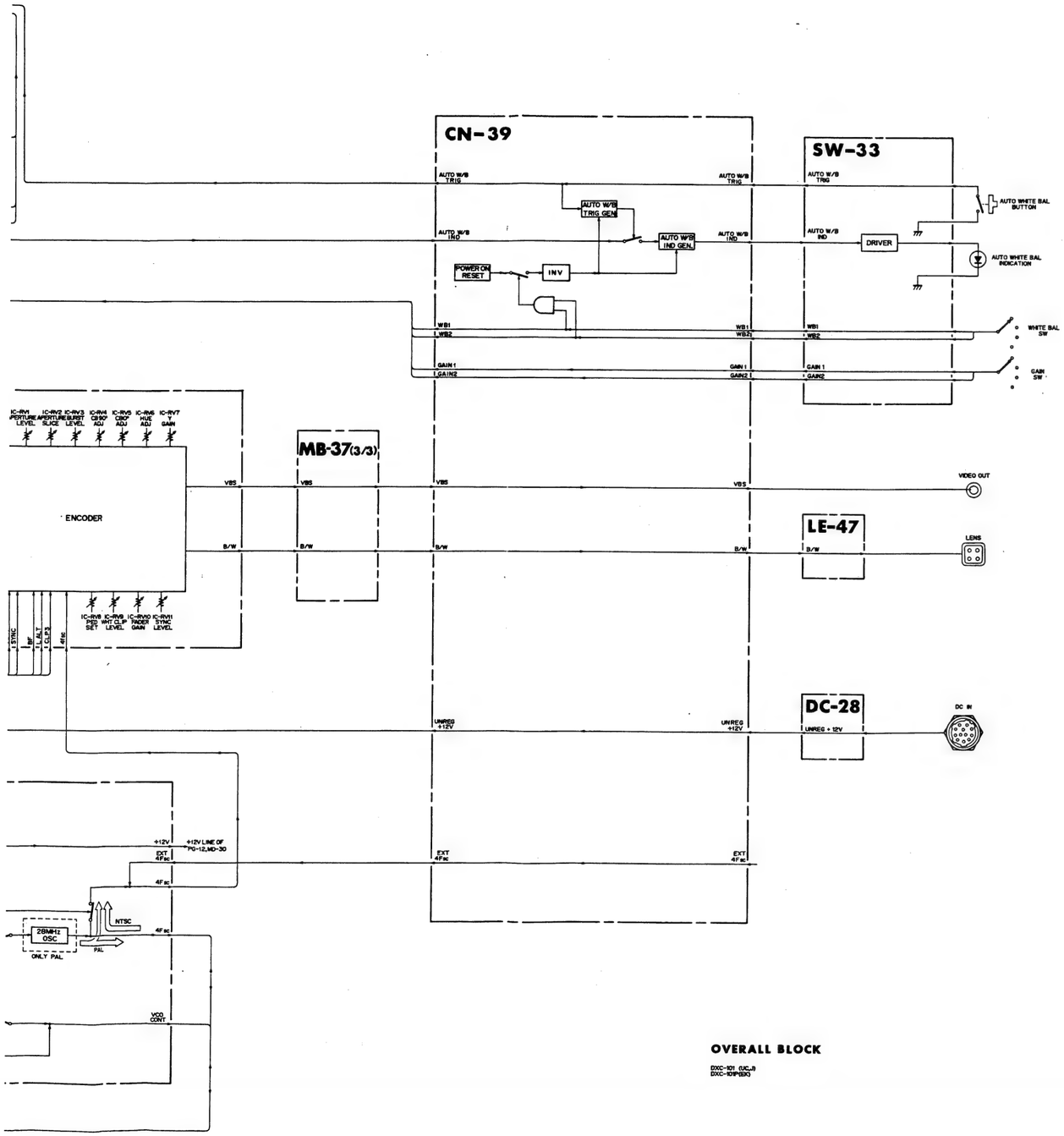
Lens: Close "C"
Equipment: Oscilloscope
Test points: Pin 7 of IC2 (chassis ground) on SG-110 board
Pin 1 of CN1 (chassis ground) of SG-110 board
Adj. Point: ◐RV1 on SG-110 PC board
Adjust: Adjust ◐RV1 on the SG-110 board so that pin 7 of IC2 on the SG-110 PC board is about 10.5V DC and the SYNC pulse bottom of the waveform at pin 1 of CN1 is horizontal.



SECTION5
DIAGRAM

DXC-101/101P OVERALL BLOCK

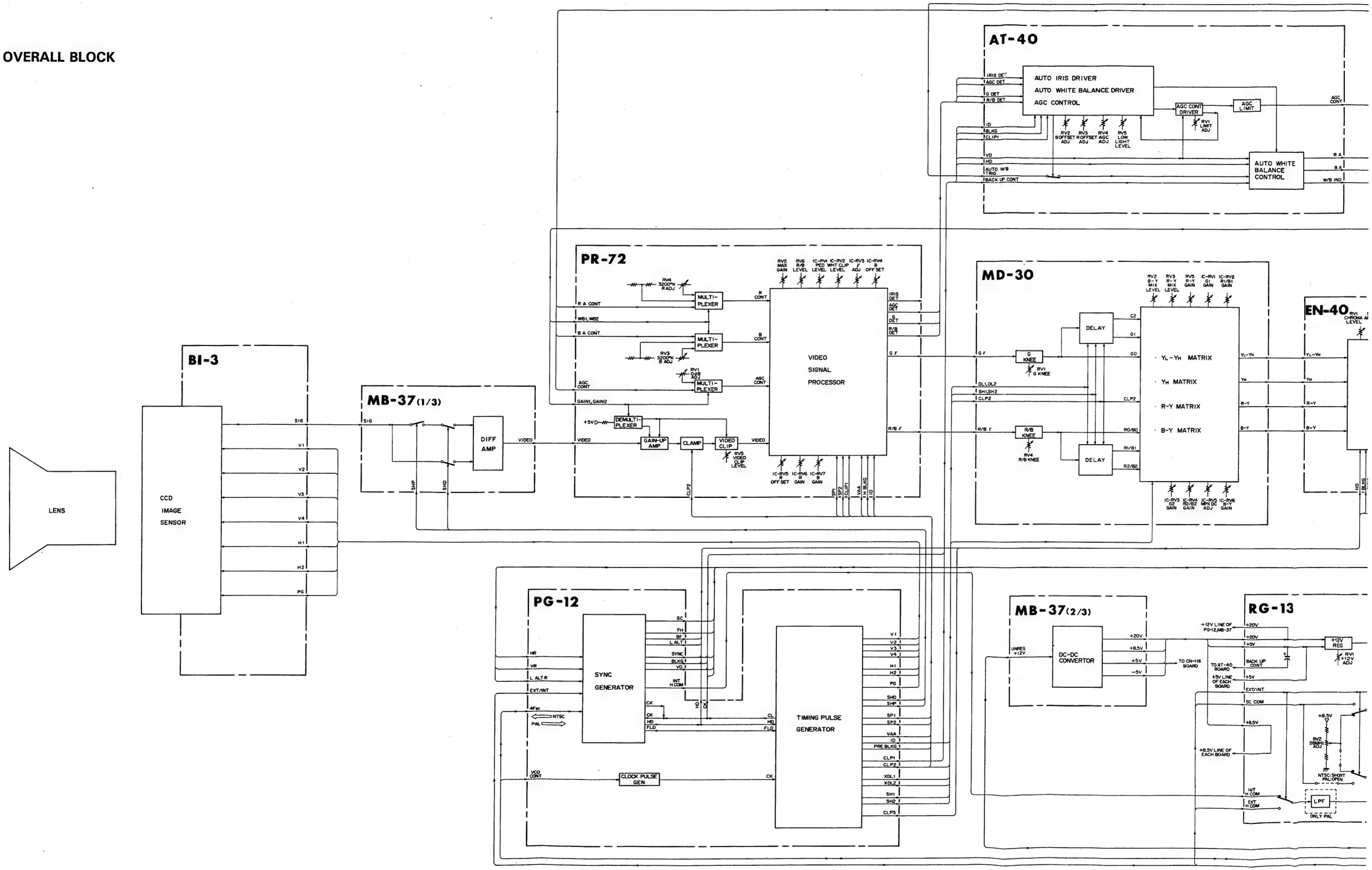


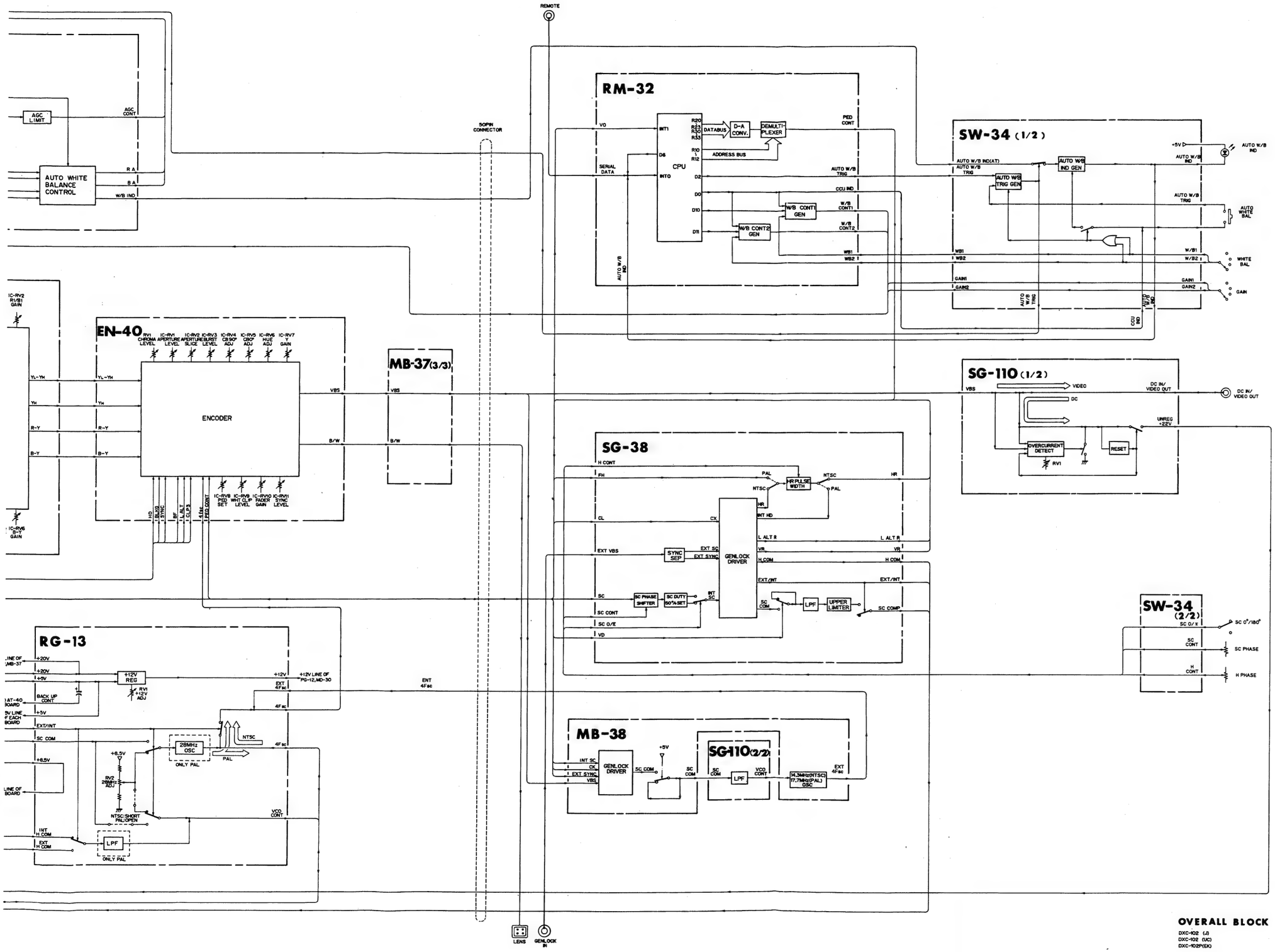


OVERALL BLOCK

DXC-101 (UC,B
DXC-101P(E/K)

DXC-102/102P OVERALL BLOCK

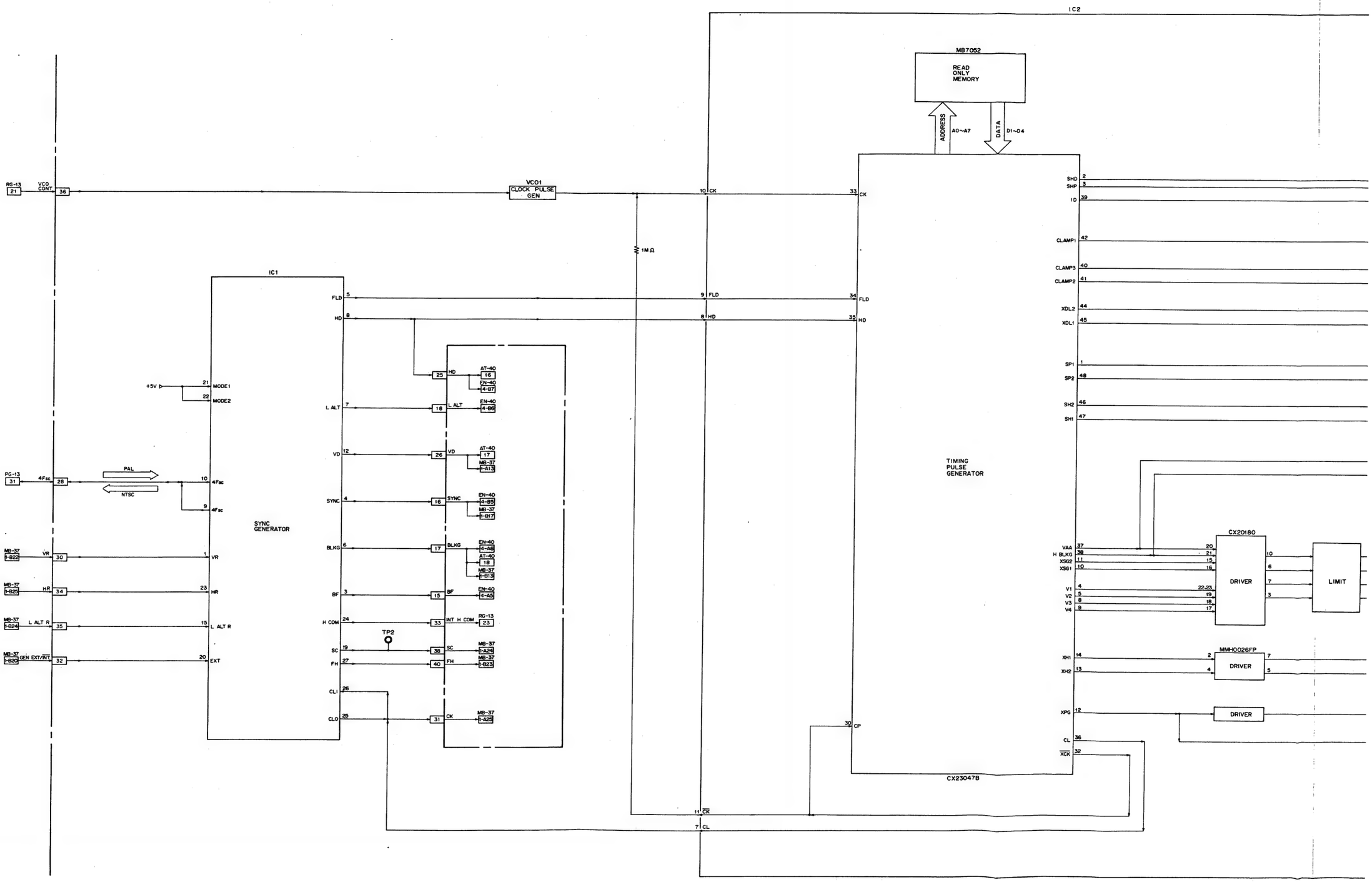


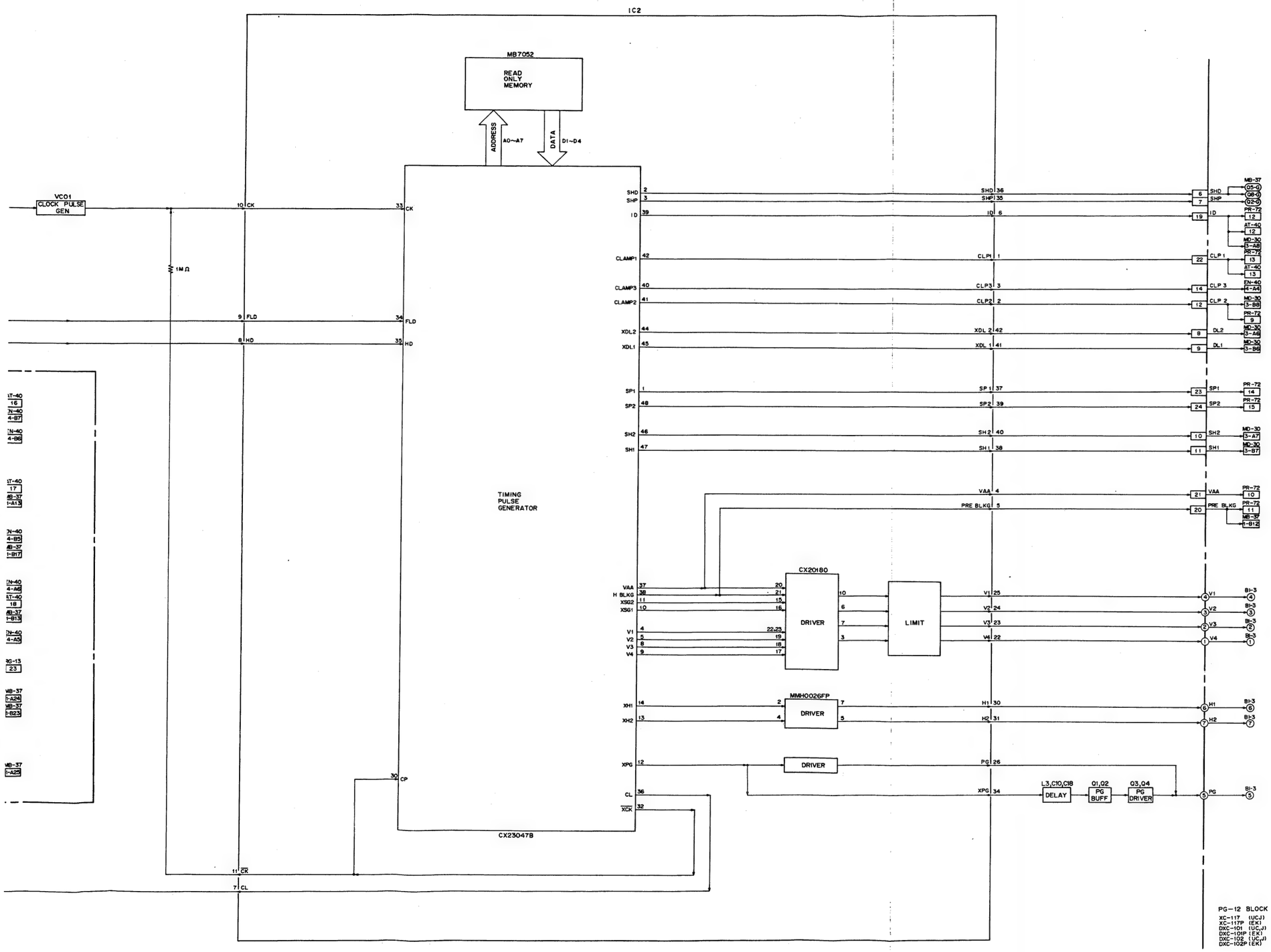


OVERALL BLOCK

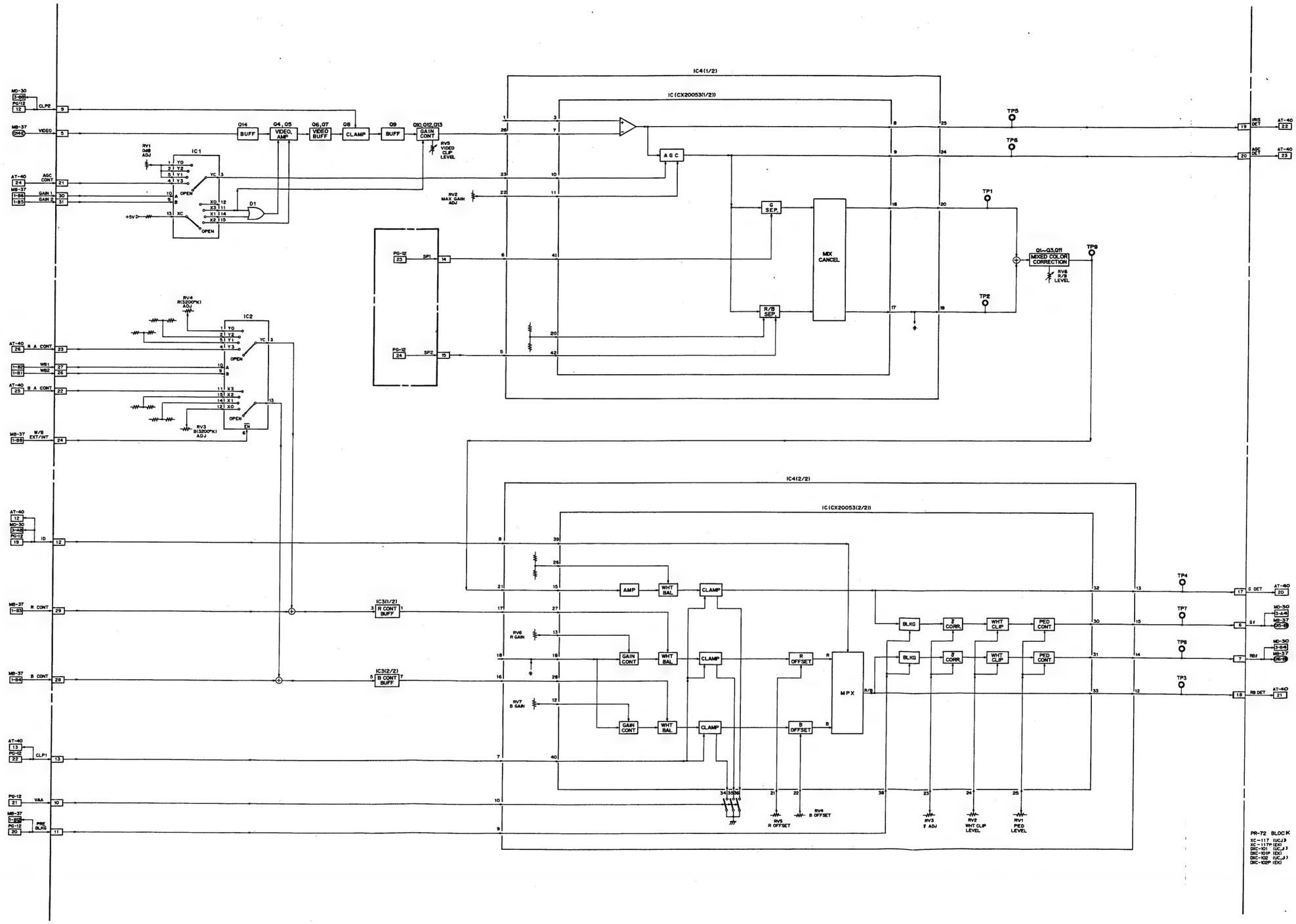
DXC-102 (J)
DXC-102 (UC)
DXC-102P(EK)

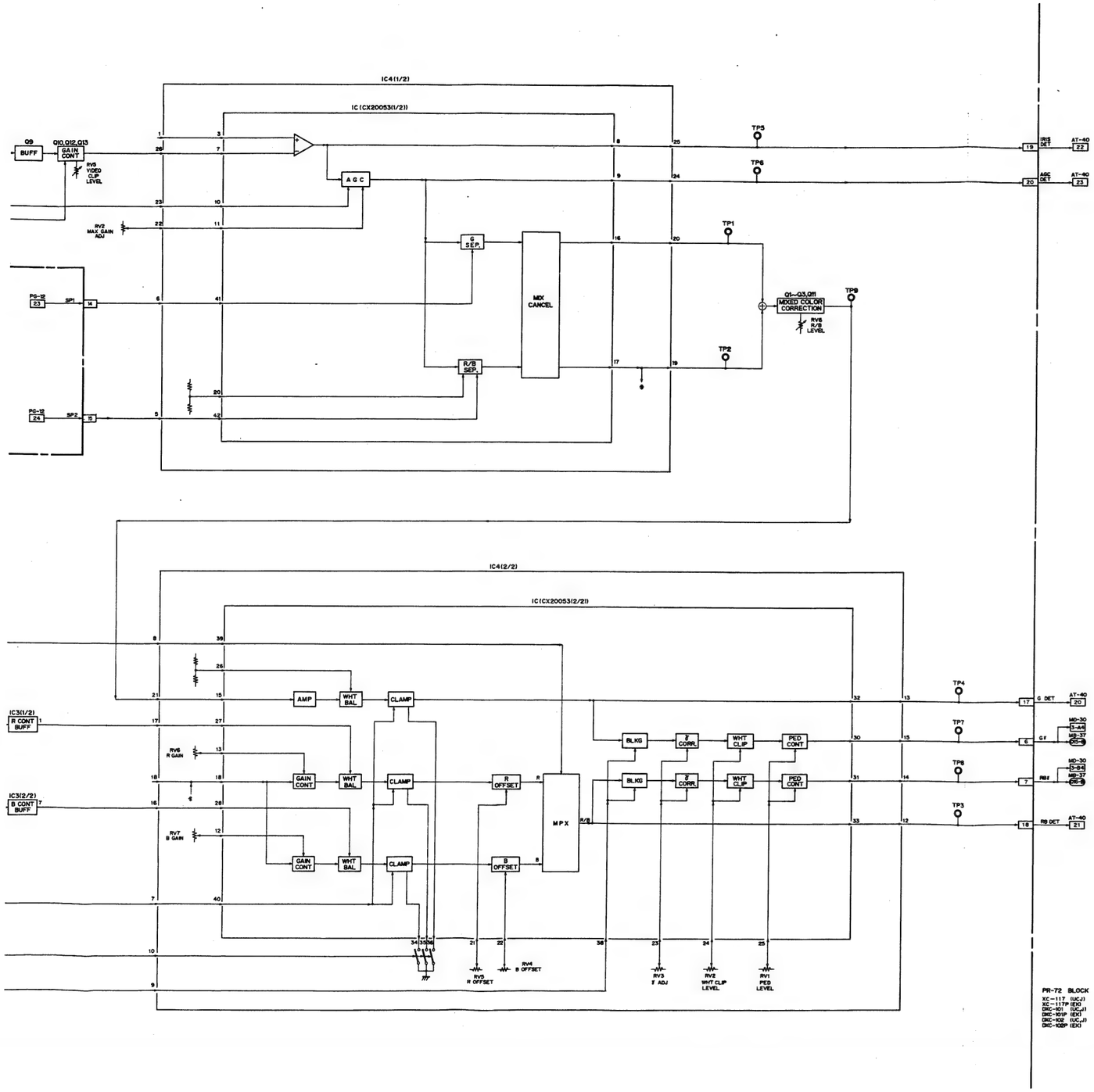
PG-12 BLOCK


IC2
MB7052
READ ONLY MEMORY
ADDRESS
A0~A7
DATA
D1~D4
RG-13 21
VCO CONT 36
VCO1 CLOCK PULSE GEN
10 CK
33 CK
1MΩ
IC1
FLD 5
9 FLD
34 FLD
HD 8
8 HD
33 HD
+5V
21 MODE1
22 MODE2
L ALT 7
25 HD
18 L ALT
AT-40 16
EN-40 4-B7
EN-40 4-B6
VD 12
26 VD
AT-40 17
MB-37 4-A13
SYNC 4
16 SYNC
EN-40 4-B5
MB-37 4-B17
BLKG 6
17 BLKG
EN-40 4-A6
AT-40 18
MB-37 4-B13
BF 3
15 BF
EN-40 4-A5
H COM 24
33 INT H COM
RG-13 23
TP2
SC 19
38 SC
MB-37 4-A24
FH 27
40 FH
MB-37 4-B23
CLI 26
CLO 25
31 CK
MB-37 4-A25
PG-13 31
4Fsc 28
PAL
NTSC
10 4Fsc
9 4Fsc
SYNC GENERATOR
MB-37 4-B22 VR 30
1 VR
MB-37 4-B25 HR 34
23 HR
MB-37 4-B24 L ALT R 35
15 L ALT R
MB-37 4-B23 GEN EXT/INT 32
20 EXT
TIMING PULSE GENERATOR
SHD 2
SHP 3
ID 39
CLAMP1 42
CLAMP3 40
CLAMP2 41
XDL2 44
XDL1 45
SP1 1
SP2 48
SH2 46
SH1 47
CX20180
VAA 37
H BLKG 38
XSG2 11
XSG1 10
20
21
15
16
DRIVER
10
6
7
3
LIMIT
V1 4
V2 5
V3 8
V4 9
22,23
19
18
17
MMH0026FP
XH1 14
XH2 13
2
4
DRIVER
7
5
XPG 12
DRIVER
CL 36
XCK 32
30 CP
CX23047B
11 CR
7 CL

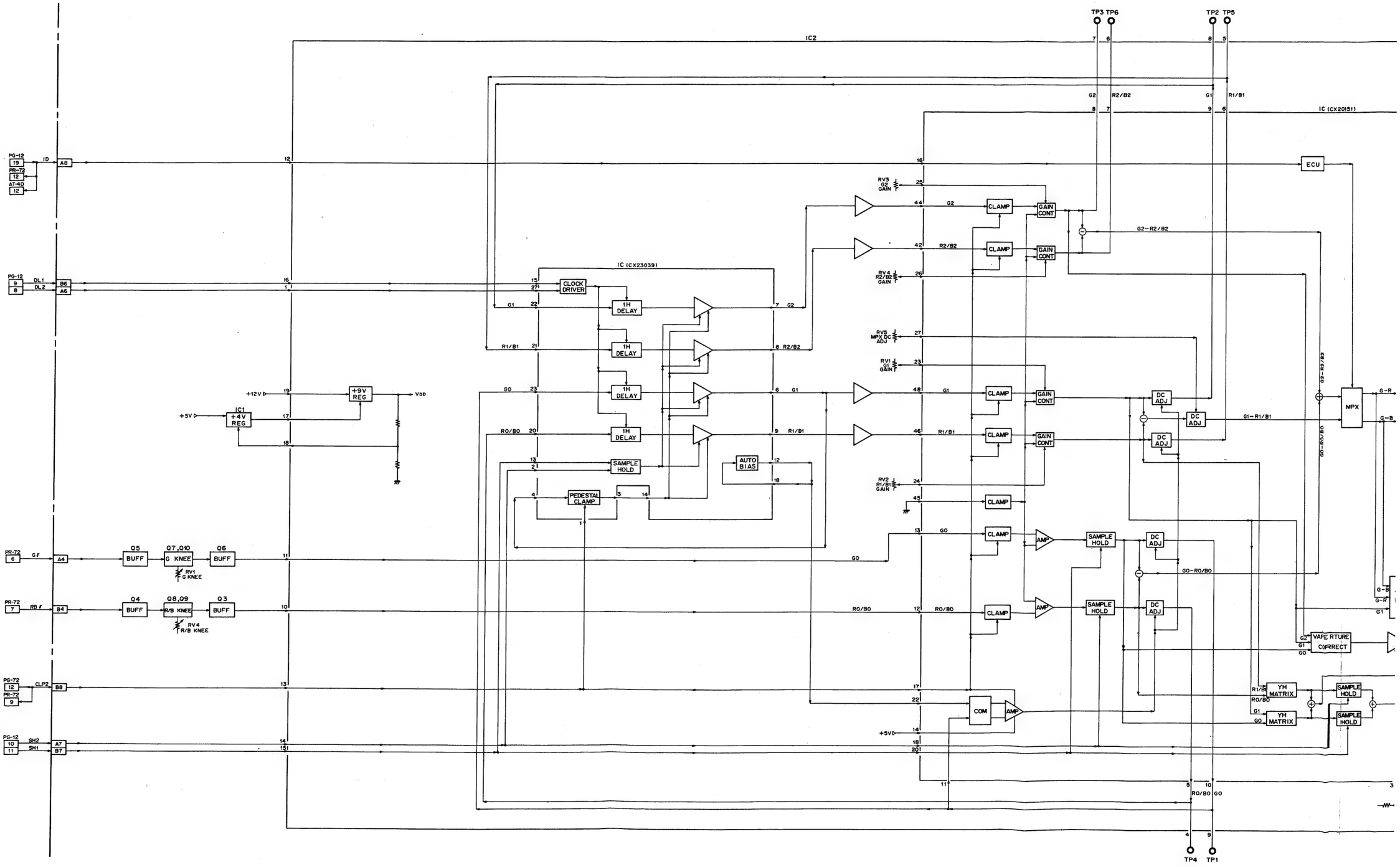

IC2
MB7052
READ ONLY MEMORY
ADDRESS
A0~A7
DATA
D1~D4
VCO1
CLOCK PULSE GEN
1MΩ
TIMING PULSE GENERATOR
CX230478
CX20180
DRIVER
LIMIT
MMH0026FP
DRIVER
DRIVER
L3,C10,C18
DELAY
Q1,Q2
PG BUFF
Q3,Q4
PG DRIVER
SHD
SHP
ID
CLAMP1
CLAMP3
CLAMP2
XDL2
XDL1
SP1
SP2
SH2
SH1
VAA
PRE BLKG
H BLKG
XSG2
XSG1
XH1
XH2
XPG
CL
XCK
CK
FLD
HD
CP
CR
CL
PG-12 BLOCK
XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UCJ)
DXC-101P (EK)
DXC-102 (UCJ)
DXC-102P (EK)

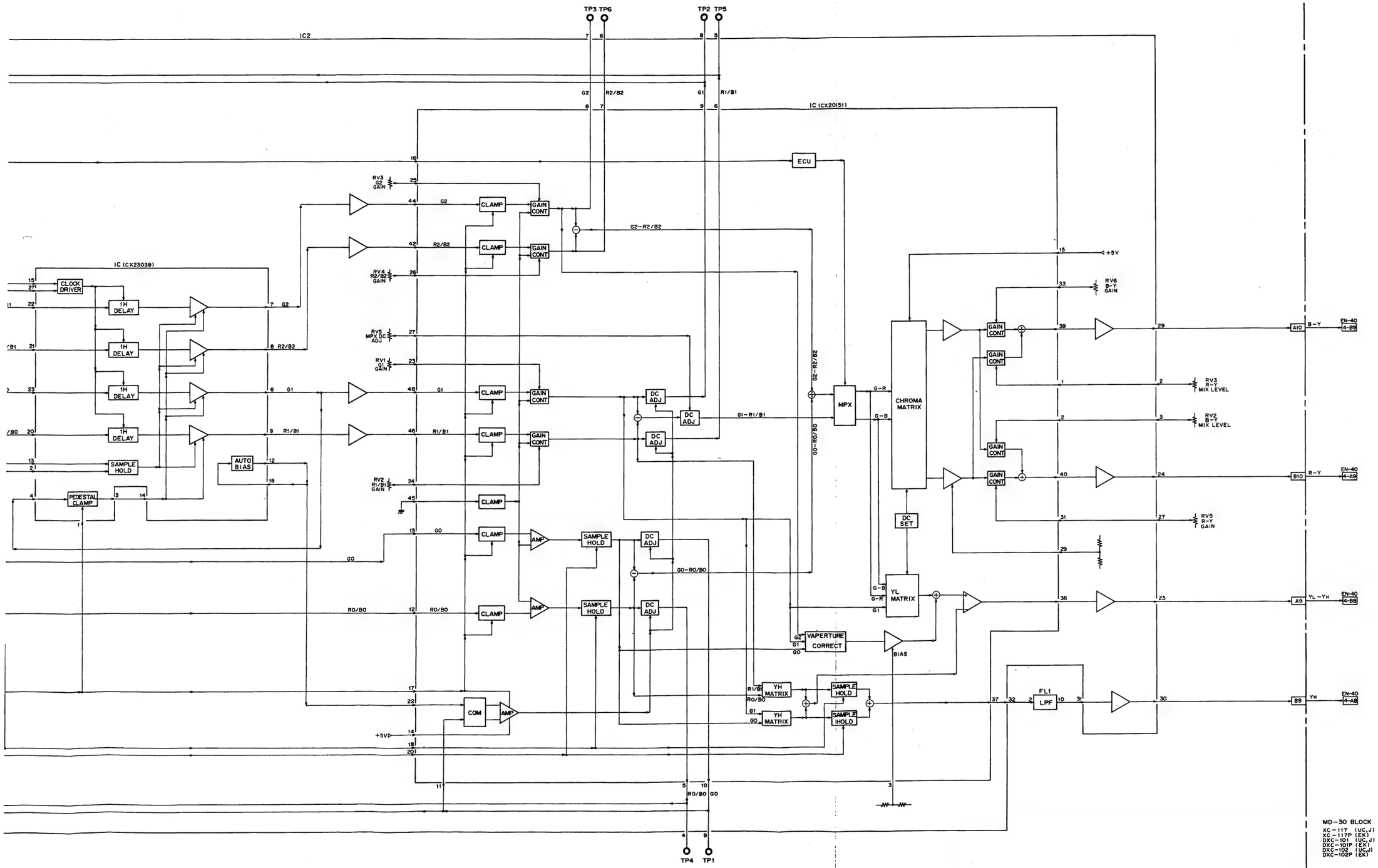
PR-72 BLOCK


IC4(1/2)
IC (CX20053(1/2))
MD-30 B-GB PG-12 12 CLP2
MB-37 G-R5 VIDEO 5
Q14 BUFF
Q4, Q5 VIDEO AMP
Q6, Q7 VIDEO BUFF
Q8 CLAMP
Q9 BUFF
Q10, Q12, Q13 GAIN CONT
RV5 VIDEO CLP LEVEL
RV1 G-GB ADJ
IC1
AT-40 24 AGC CONT 21
MB-37 1-B6 GAIN 1 30
MB-37 1-B5 GAIN 2 31
+5V
D1
RV2 MAX GAIN ADJ
A G C
G SEP.
R/B SEP.
MIX CANCEL
PG-12 23 SP1 14
PG-12 24 SP2 15
Q1~Q3,Q11 MIXED COLOR CORRECTION
RV8 R/B LEVEL
TP1
TP2
TP5
TP6
TP9
AT-40 22 GRN DET
AT-40 23 AGC DET
RV4 R(300PK) ADJ
IC2
AT-40 26 R A CONT 23
MB-37 1-B2 WB1 27
MB-37 1-B1 WB2 25
AT-40 25 B A CONT 22
RV3 B(300PK) ADJ
MB-37 1-B8 W/B EXT/INT 24
IC4(2/2)
IC (CX20053(2/2))
AT-40 12
MD-30 B-GB
PG-12 19 ID 12
MB-37 1-B3 R CONT 29
IC3(1/2) R CONT BUFF
MB-37 1-B4 B CONT 28
IC3(2/2) B CONT BUFF
AT-40 13
PG-12 22 CLP1 13
PG-12 21 VAA 10
MB-37 1-B9
PG-12 20 PRE BLKG 11
AMP
WHT BAL
CLAMP
GAIN CONT
RV6 R GAIN
RV7 B GAIN
R OFFSET
B OFFSET
MPX
BLKG
G CORR.
WHT CLIP
PED CONT
RV5 R OFFSET
RV4 B OFFSET
RV3 F ADJ
RV2 WHT CLIP LEVEL
RV1 PED LEVEL
TP4
TP7
TP8
TP3
G DET AT-40 20
GF MD-30 B-B4 MB-37 2F-B
RBF MD-30 B-B4 MB-37 2F-B
RB DET AT-40 21
PR-72 BLOCK
XC-117 (UC,J)
XC-117P (ED)
DXC-101 (UC,J)
DXC-101P (ED)
DXC-102 (UC,J)
DXC-102P (ED)

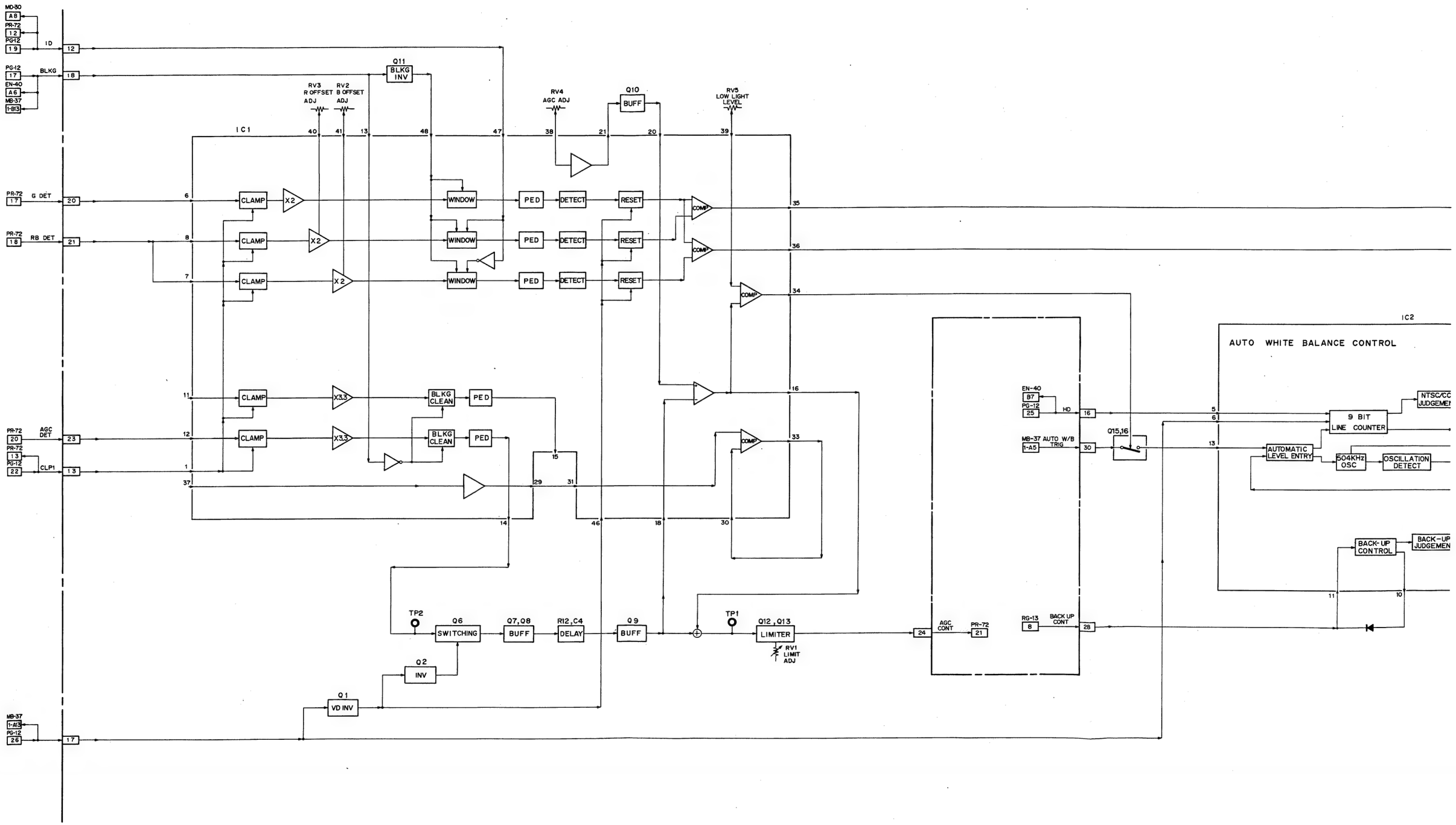

IC4(1/2)
IC(CX20053(1/2))
Q9 BUFF
Q10,Q12,Q13 GAIN CONT
RV6 VIDEO CLIP LEVEL
RV2 MAX GAIN ADJ
A G C
G SEP.
MIX CANCEL
R/B SEP.
Q1~Q3,Q11 MIXED COLOR CORRECTION
RV8 R/B LEVEL
TP1
TP2
TP3
TP5
TP6
TP9
IRIS DET
AGC DET
AT-40
PG-12
SP1
SP2
IC4(2/2)
IC(CX20053(2/2))
IC3(1/2) R CONT BUFF
IC3(2/2) B CONT BUFF
RV6 R GAIN
RV7 B GAIN
AMP
WHT BAL
CLAMP
GAIN CONT
R OFFSET
B OFFSET
MPX
BLKG
γ CORR
WHT CLIP
PED CONT
TP4
TP7
TP8
G DET
R/B DET
MD-30
MB-37
RV5 R OFFSET
RV4 B OFFSET
RV3 γ ADJ
RV2 WHT CLIP LEVEL
RV1 PED LEVEL
PR-72 BLOCK
XC-117 (UC,J)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P (EK)
DXC-102 (UC,J)
DXC-102P (EK)

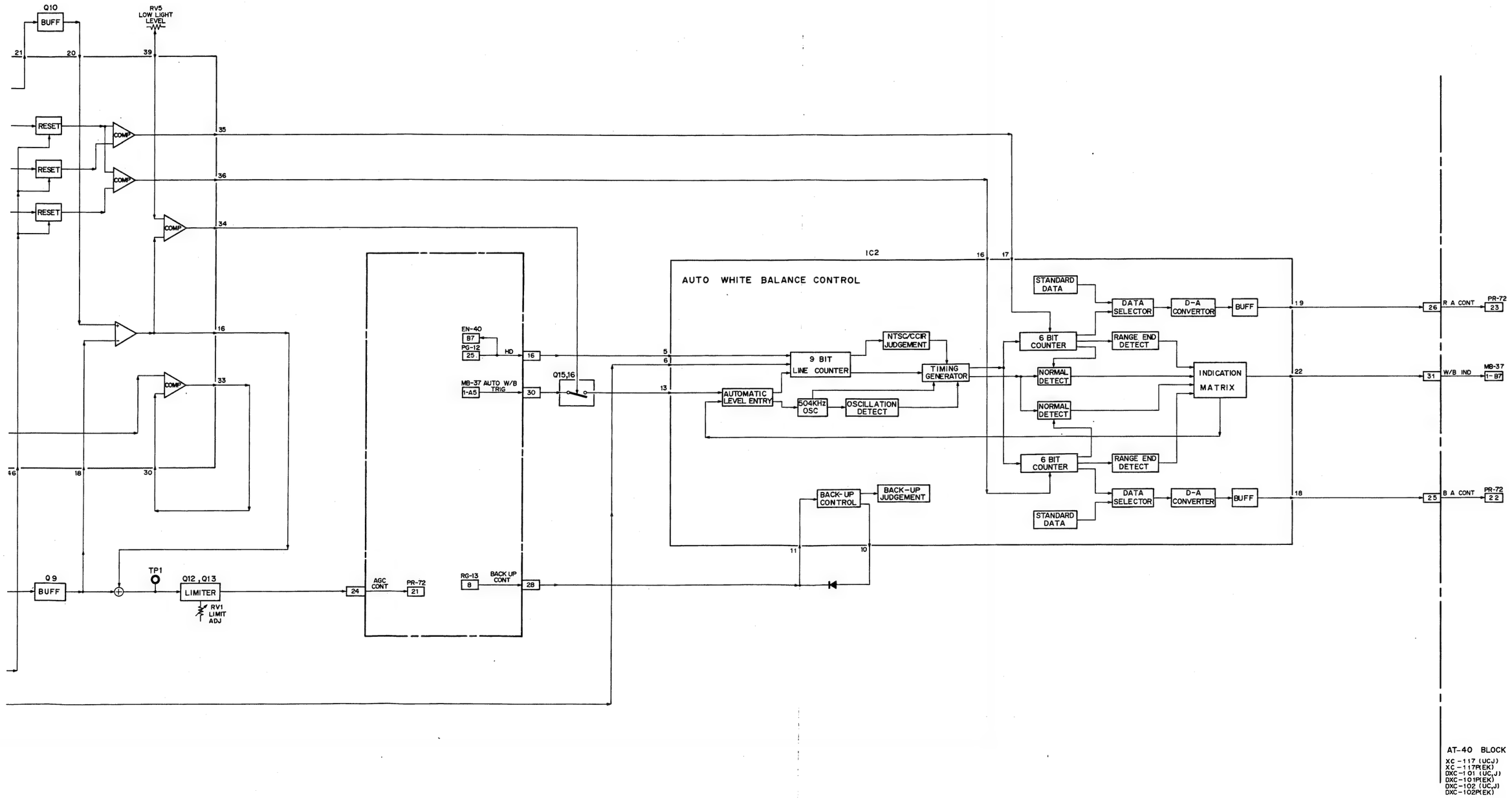
MD-30 BLOCK


TP3 TP6
TP2 TP5
IC2
IC (CX20151)
ECU
PG-12
PR-72
AT-40
ID
A8
DL1
DL2
B6
A6
IC (CX23039)
CLOCK DRIVER
1H DELAY
SAMPLE HOLD
AUTO BIAS
PEDESTAL CLAMP
+12V
+5V
IC1
+4V REG
+9V REG
VDD
RV3 G2 GAIN
RV4 R2/B2 GAIN
RV5 MPX DC ADJ
RV1 G1 GAIN
RV2 R1/B1 GAIN
CLAMP
GAIN CONT
AMP
COM
DC ADJ
MPX
G2-R2/B2
G1-R1/B1
GO-RO/BO
G-R
G-B
APERTURE CORRECT
YH MATRIX
PR-72
GF
RB
A4
B4
Q5
BUFF
Q7,Q10
G KNEE
Q6
RV1 G KNEE
Q4
Q8,Q9
R/B KNEE
Q3
RV4 R/B KNEE
PG-72
CLP2
B8
SH2
SH1
A7
B7
TP4 TP1

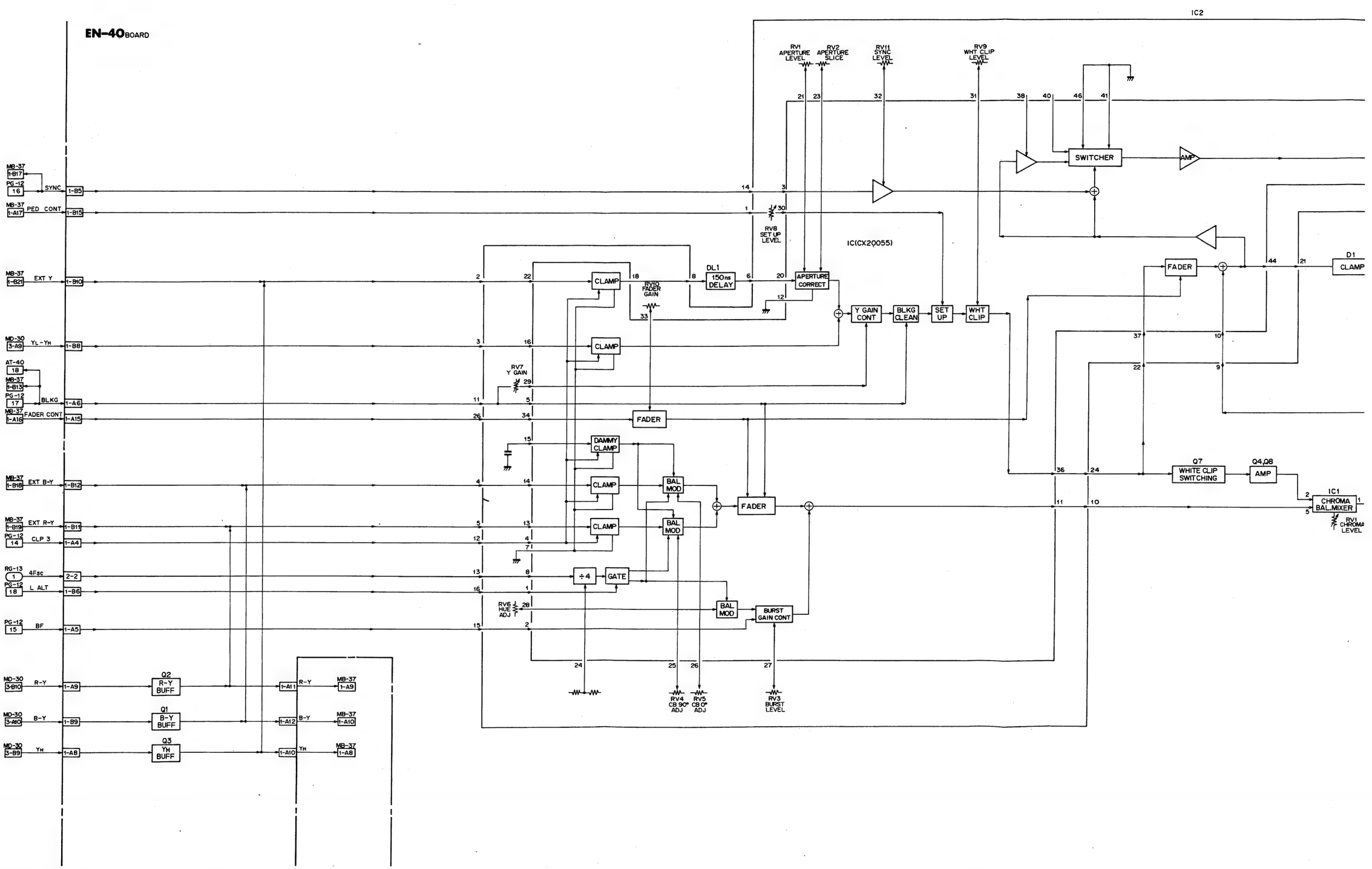

TP3 TP6
TP2 TP5
IC2
G2
R2/B2
G1
R1/B1
IC (CX20151)
ECU
RV3 G2 GAIN
RV4 R2/B2 GAIN
RV5 MPX DC ADJ
RV1 G1 GAIN
RV2 R1/B1 GAIN
IC (CX23039)
CLOCK DRIVER
1H DELAY
SAMPLE HOLD
AUTO BIAS
PEDESTAL CLAMP
CLAMP
GAIN CONT
DC ADJ
AMP
COM
+5VD
G2-R2/B2
G1-R1/B1
G0-R0/B0
MPX
G-R
G-B
CHROMA MATRIX
DC SET
YL MATRIX
YH MATRIX
VAPERTURE CORRECT
BIAS
+5V
RV6 B-Y GAIN
RV3 R-Y MIX LEVEL
RV2 B-Y MIX LEVEL
RV5 R-Y GAIN
FL1
LPF
A10 B-Y EN-40 4-B9
B10 R-Y EN-40 4-A9
A9 YL-YH EN-40 4-B8
B9 YH EN-40 4-A8
TP4 TP1
MD-30 BLOCK
XC-117 (UC,J)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P (EK)
DXC-102 (UC,J)
DXC-102P (EK)

AT-40 BLOCK

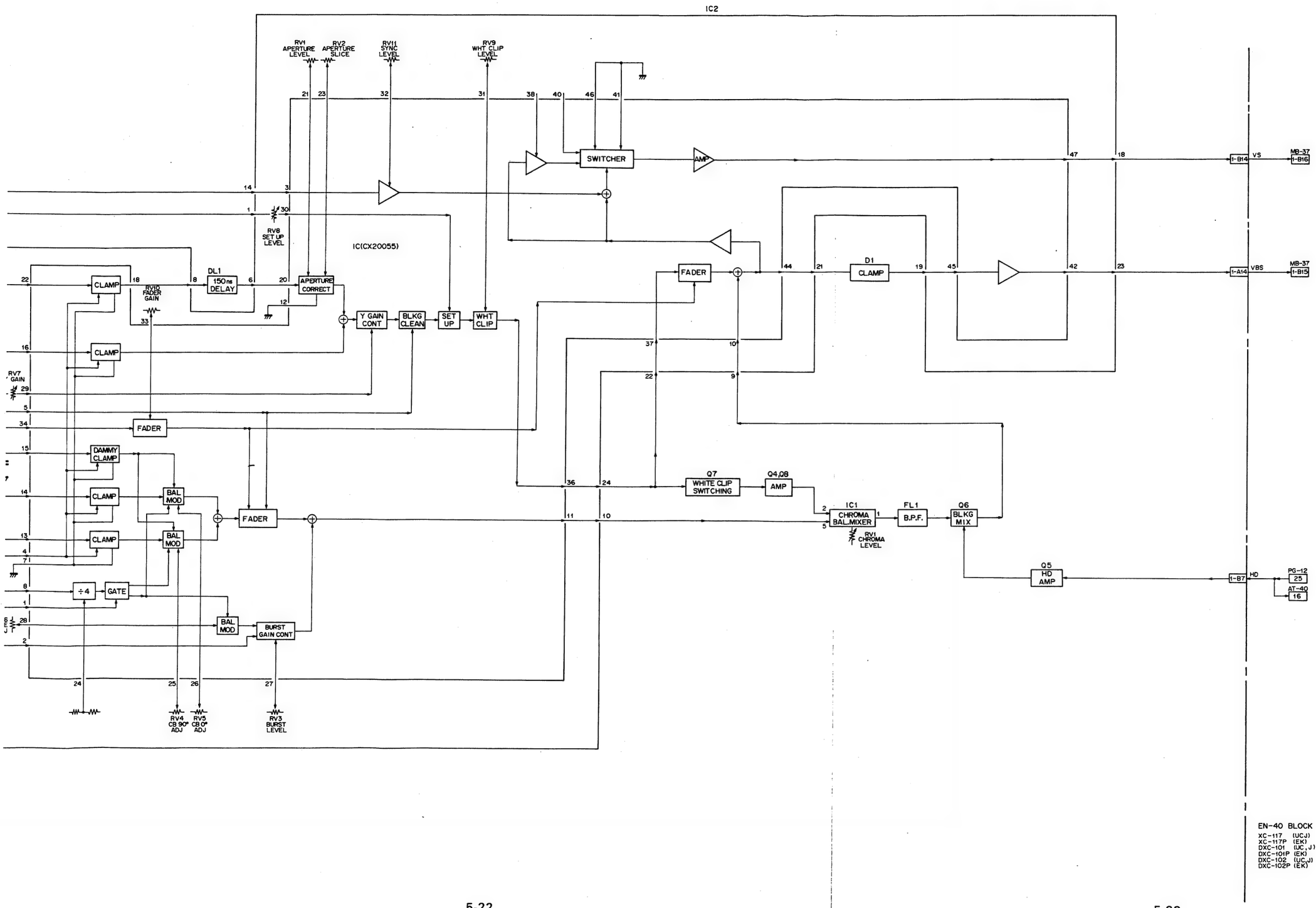

MD-30 A8
PR-72 12
PG-12 19
ID
12
PG-12 17
BLKG
18
EN-40 A6
MB-37 1-B13
Q11 BLKG INV
RV3 R OFFSET ADJ
RV2 B OFFSET ADJ
RV4 AGC ADJ
Q10 BUFF
RV5 LOW LIGHT LEVEL
IC1
40
41
13
48
47
38
21
20
39
PR-72 17 G DET
20
6
CLAMP
X2
WINDOW
PED
DETECT
RESET
COMP
35
PR-72 18 RB DET
21
8
CLAMP
X2
WINDOW
PED
DETECT
RESET
COMP
36
7
CLAMP
X2
WINDOW
PED
DETECT
RESET
34
11
CLAMP
X3.3
BLKG CLEAN
PED
16
PR-72 20 AGC DET
23
12
CLAMP
X3.3
BLKG CLEAN
PED
COMP
33
PR-72 13
PG-12 22
CLP1
13
1
37
15
29
31
14
46
18
30
TP2
Q6 SWITCHING
Q7,Q8 BUFF
R12,C4 DELAY
Q9 BUFF
TP1
Q12,Q13 LIMITER
RV1 LIMIT ADJ
24
AGC CONT
PR-72 21
Q2 INV
Q1 VD INV
MB-37 1-A13
PG-12 26
17
IC2
AUTO WHITE BALANCE CONTROL
EN-40 B7
PG-12 25
HD
16
MB-37 AUTO W/B TRIG 1-A5
30
Q15,16
5
6
13
9 BIT LINE COUNTER
NTSC/CC JUDGEME
AUTOMATIC LEVEL ENTRY
504KHz OSC
OSCILLATION DETECT
BACK-UP CONTROL
BACK-UP JUDGEMEN
11
10
RG-13 8
BACK UP CONT
28


Q10
BUFF
RV5
LOW LIGHT
LEVEL
21
20
39
RESET
RESET
RESET
COMP
COMP
COMP
COMP
COMP
35
36
34
16
33
46
18
30
Q9
BUFF
TP1
Q12, Q13
LIMITER
RV1
LIMIT
ADJ
24
AGC
CONT
PR-72
21
EN-40
87
PG-12
25
HD
MB-37 AUTO W/B
TRIG
1-A5
30
16
Q15,16
RG-13
8
BACK UP
CONT
28
IC2
AUTO WHITE BALANCE CONTROL
5
6
13
9 BIT
LINE COUNTER
NTSC/CCIR
JUDGEMENT
TIMING
GENERATOR
AUTOMATIC
LEVEL ENTRY
504KHz
OSC
OSCILLATION
DETECT
BACK-UP
CONTROL
BACK-UP
JUDGEMENT
11
10
16
17
STANDARD
DATA
DATA
SELECTOR
D-A
CONVERTOR
BUFF
6 BIT
COUNTER
RANGE END
DETECT
NORMAL
DETECT
NORMAL
DETECT
INDICATION
MATRIX
6 BIT
COUNTER
RANGE END
DETECT
STANDARD
DATA
DATA
SELECTOR
D-A
CONVERTER
BUFF
19
22
18
26
R A CONT
PR-72
23
31
W/B IND
MB-37
1-B7
25
B A CONT
PR-72
22
AT-40 BLOCK
XC-117 (UCJ)
XC-117P(EK)
DXC-101 (UCJ)
DXC-101P(EK)
DXC-102 (UCJ)
DXC-102P(EK)

EN-40 BLOCK


EN-40 BOARD
IC2
RV1 APERTURE LEVEL
RV2 APERTURE SLICE
RV11 SYNC LEVEL
RV9 WHT CLIP LEVEL
SWITCHER
AMP
MB-37 1-B17 PG-12 16 SYNC 1-B5
MB-37 1-A17 PED CONT 1-B15
RV8 SET UP LEVEL
IC(CX20055)
MB-37 1-B21 EXT Y 1-B10
CLAMP
RV10 FADER GAIN
DL1 150ns DELAY
APERTURE CORRECT
Y GAIN CONT
BLKG CLEAN
SET UP
WHT CLIP
FADER
D1 CLAMP
MD-30 3-A9 YL-YH 1-B8
RV7 Y GAIN
AT-40 18 MB-37 1-B13 PG-12 17 BLKG 1-A6
MB-37 1-A16 FADER CONT 1-A15
DAMMY CLAMP
MB-37 1-B18 EXT B-Y 1-B12
BAL MOD
MB-37 1-B19 EXT R-Y 1-B11
PG-12 14 CLP 3 1-A4
RG-13 1 4Fsc 2-2
PG-12 18 L ALT 1-B6
÷4
GATE
RV6 HUE ADJ
BURST GAIN CONT
PG-12 15 BF 1-A5
RV4 CB 90° ADJ
RV5 CB 0° ADJ
RV3 BURST LEVEL
Q7 WHITE CLIP SWITCHING
Q4,Q8 AMP
IC1 CHROMA BAL.MIXER
RV1 CHROMA LEVEL
MD-30 3-B10 R-Y 1-A9
Q2 R-Y BUFF
1-A11 R-Y MB-37 1-A9
MD-30 3-A10 B-Y 1-B9
Q1 B-Y BUFF
1-A12 B-Y MB-37 1-A10
MD-30 3-B9 YH 1-A8
Q3 YH BUFF
1-A10 YH MB-37 1-A8

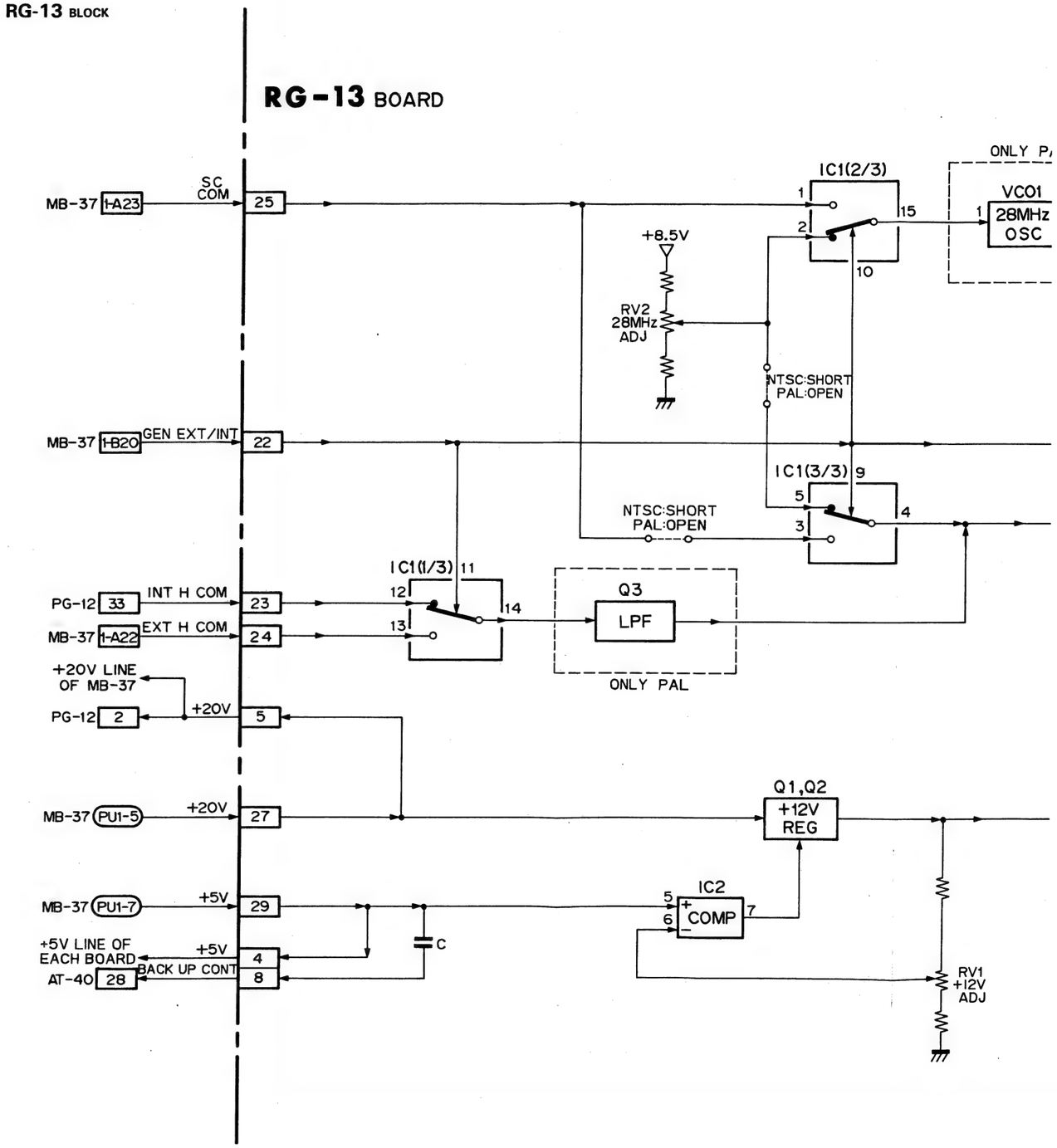
EN-40 B/D DXC-101/101P/102/102P



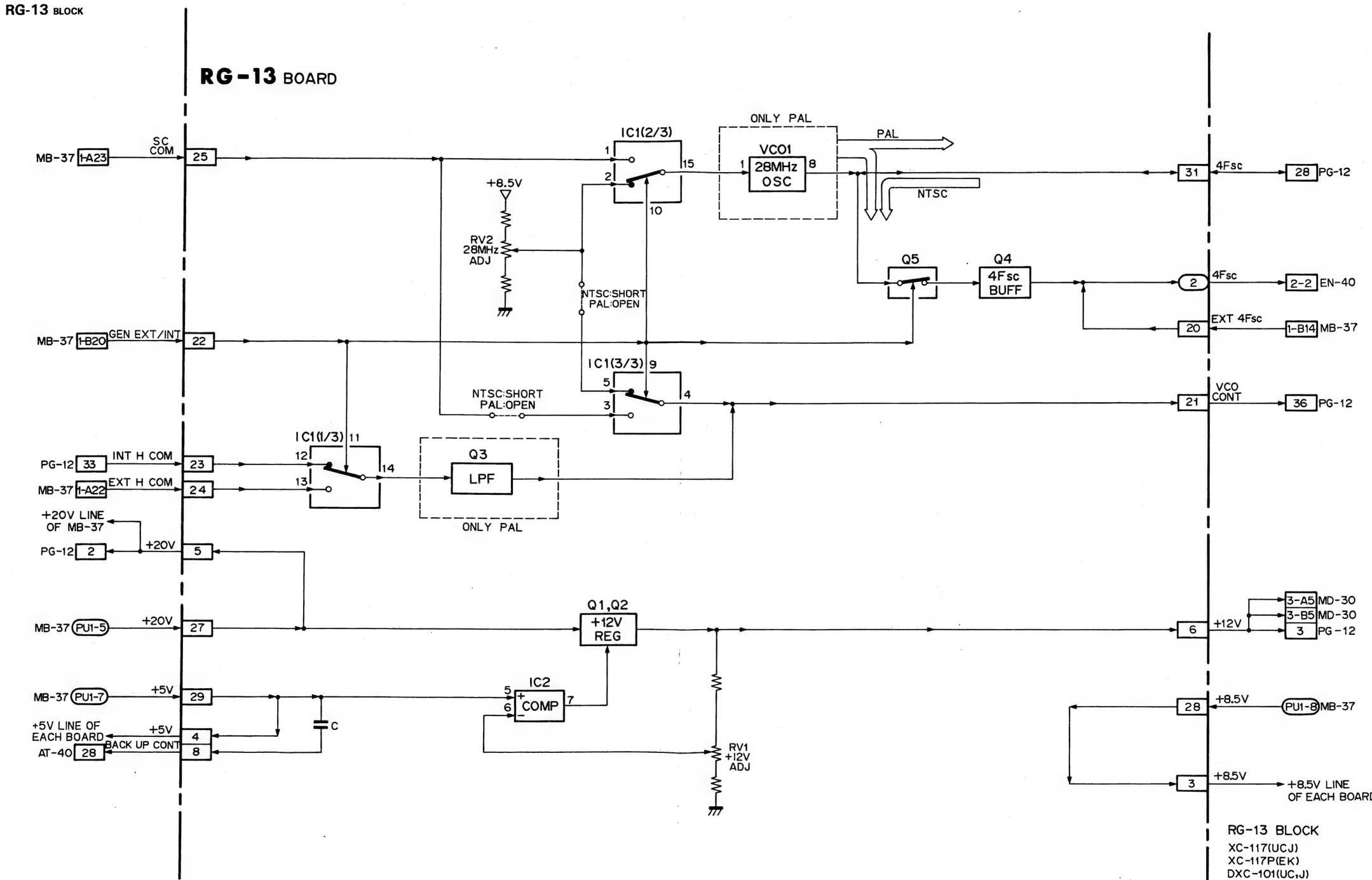
EN-40 BLOCK

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P (EK)
DXC-102 (UC,J)
DXC-102P (EK)

RG-13 BLOCK


RG-13 BOARD
ONLY P
MB-37 1-A23
SC COM
25
IC1(2/3)
1
2
15
10
VCO1
28MHz OSC
+8.5V
RV2 28MHz ADJ
NTSC:SHORT PAL:OPEN
MB-37 1-B20
GEN EXT/INT
22
IC1(3/3) 9
5
3
4
NTSC:SHORT PAL:OPEN
IC1(1/3) 11
12
13
14
Q3
LPF
ONLY PAL
PG-12 33
INT H COM
23
MB-37 1-A22
EXT H COM
24
+20V LINE OF MB-37
PG-12 2
+20V
5
Q1,Q2
+12V REG
MB-37 PU1-5
+20V
27
IC2
5
6
COMP
7
MB-37 PU1-7
+5V
29
C
+5V LINE OF EACH BOARD
AT-40 28
+5V
BACK UP CONT
4
8
RV1 +12V ADJ

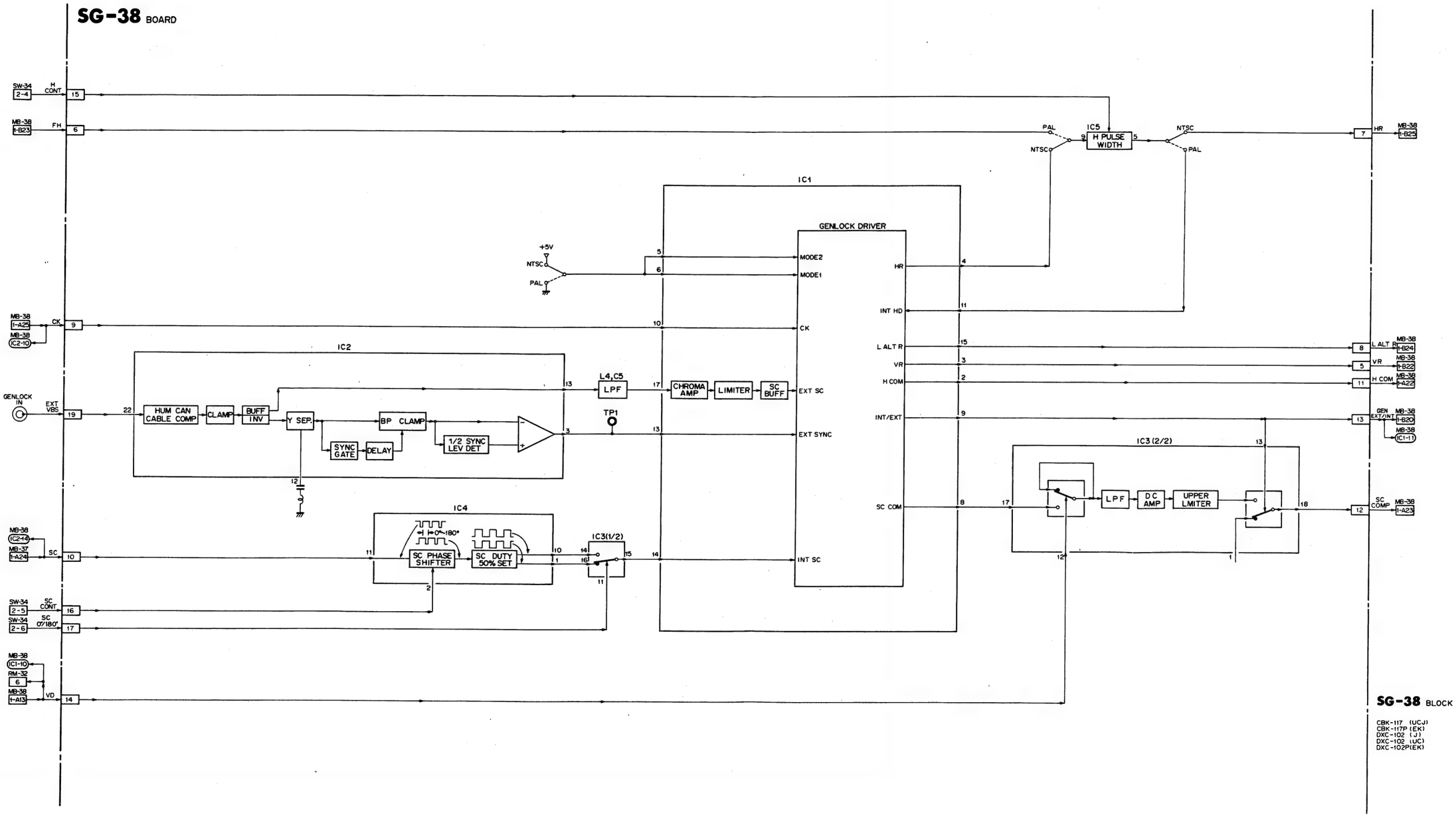
RG-13 BLOCK



RG-13 BLOCK

XC-117(UCJ)
XC-117P(EK)
DXC-101(UC,J)
DXC-101P(EK)
DXC-102(UC,J)
DXC-102P(EK)

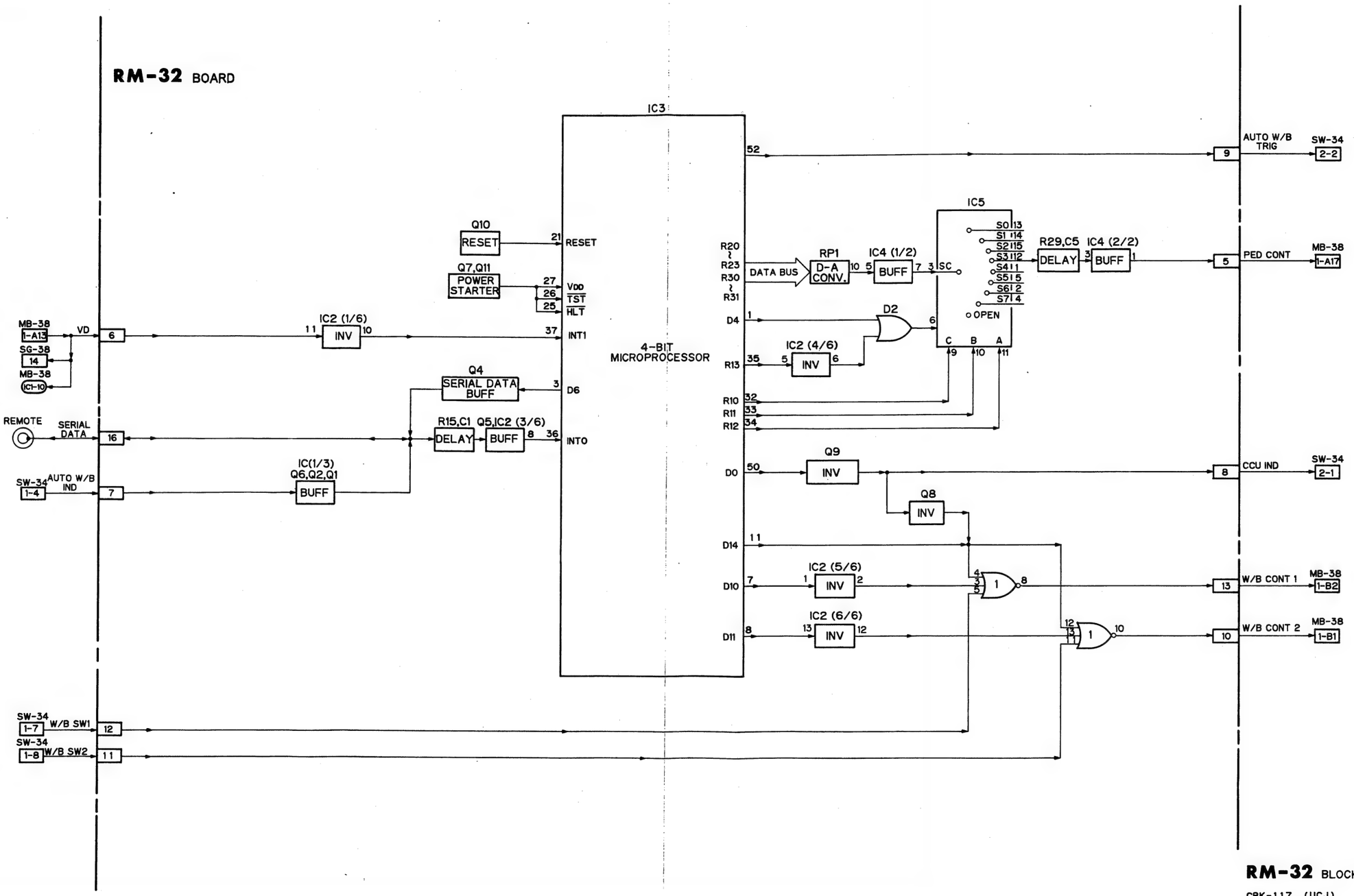
SG-38 BLOCK



SG-38 BLOCK

CBK-117 (UCJ)
CBK-117P (EK)
DXC-102 (J)
DXC-102 (UC)
DXC-102P(EK)

RM-32 BLOCK



RM-32 BLOCK

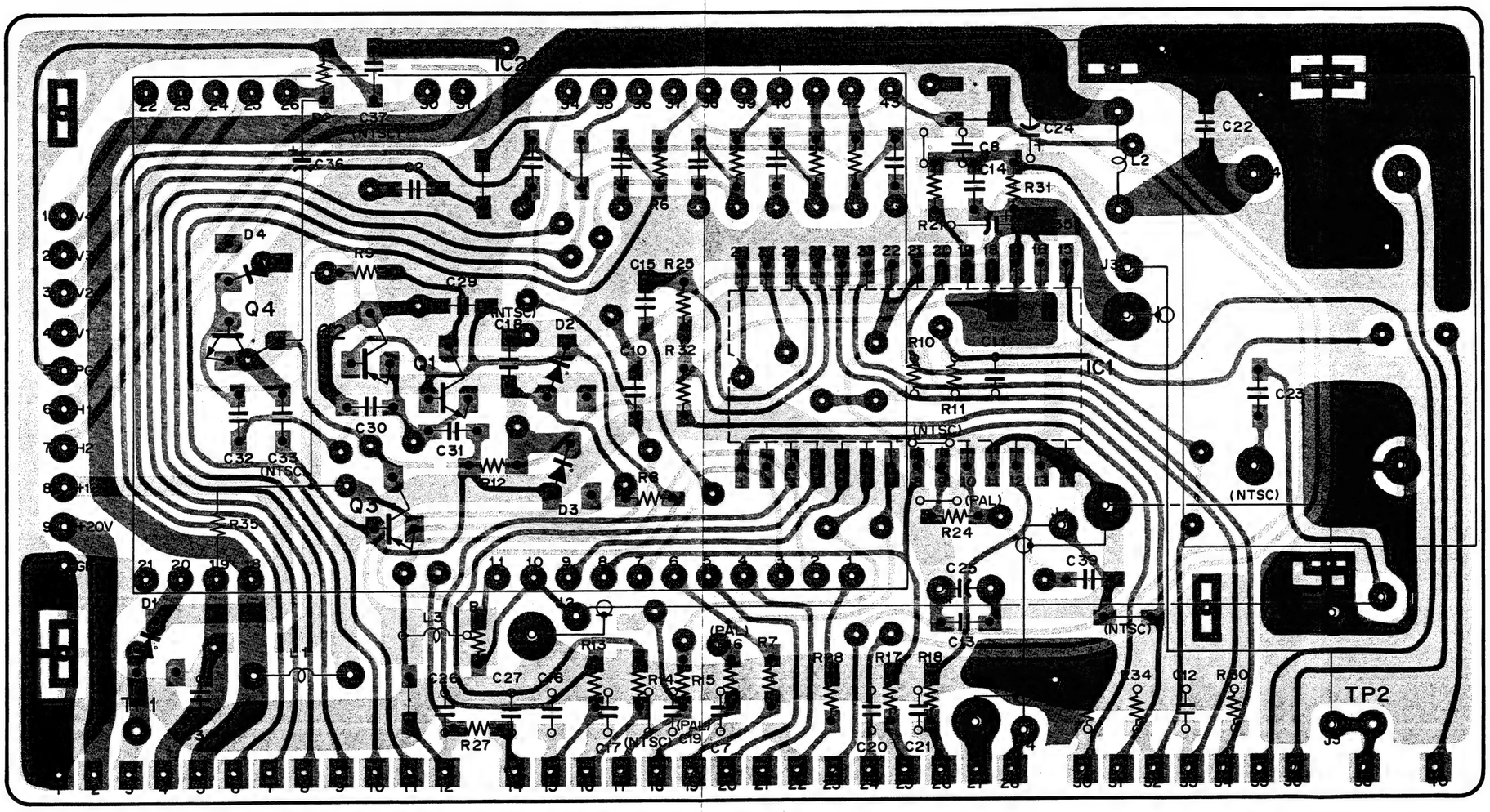
CBK-117 (UCJ)
CBK-117P (EK)
DXC-102 (J)
DXC-102 (UC)
DXC-102P (EK)

SECTION6

SCHEMATIC AND MOUNTING DIAGRAM

PG-12 BOARD

SERIAL NO.	
DXC-101 (J)	Up to 51290
DXC-101 (UC)	Up to 11180
DXC-101P (EK)	Up to 12080
DXC-102 (J)	Up to 10470
DXC-102 (UC)	Up to 10660
DXC-102P (EK)	Up to 11070



— SOLDERING SIDE —

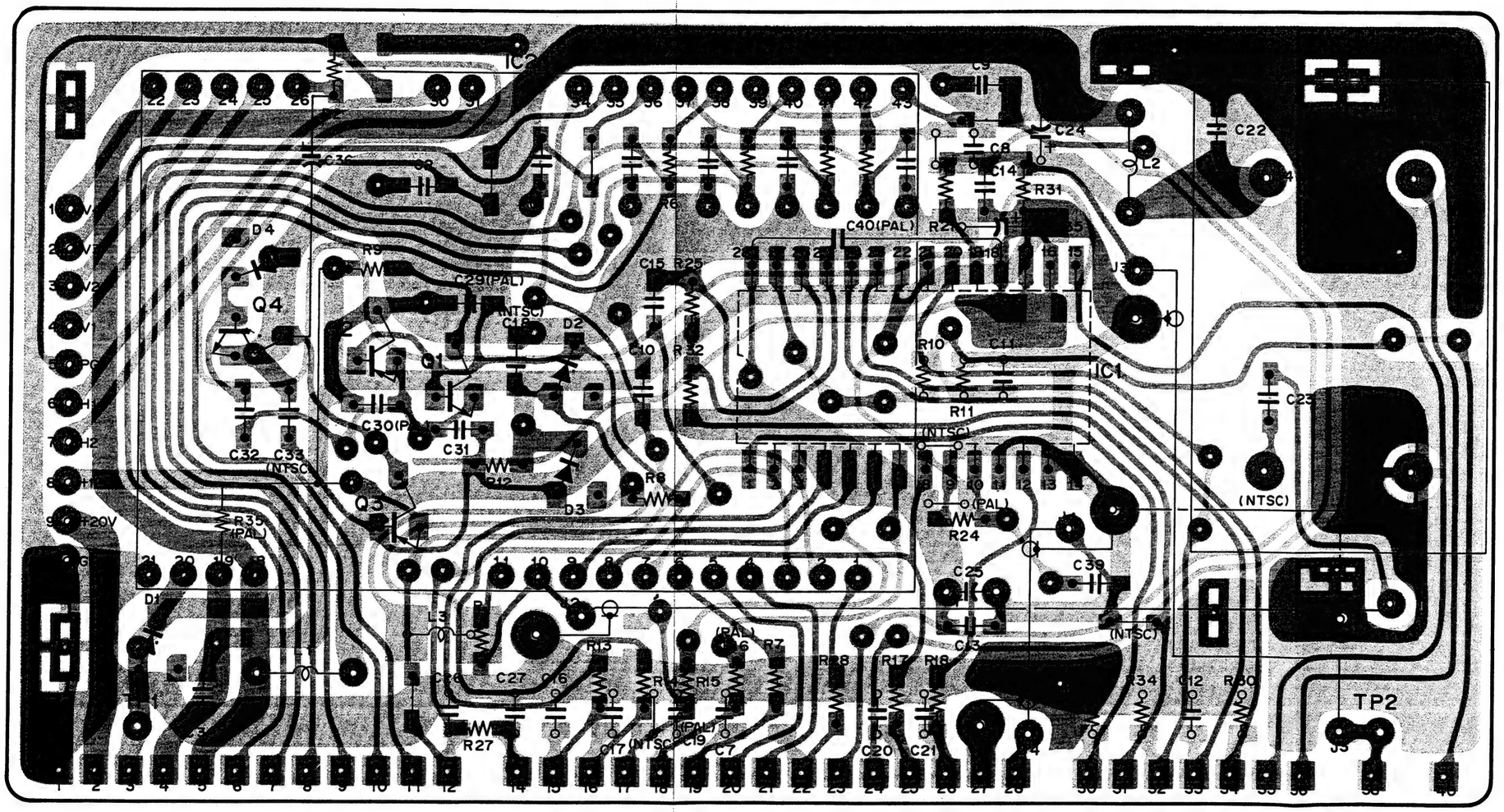
PG-12 BOARD

1-617-210-11

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P (EK)
DXC-102 (UC,J)
DXC-102P (EK)

PG-12 BOARD

SERIAL NO.	
DXC-101 (J)	51291 and higher
DXC-101 (UC)	11181 and higher
DXC-101P (EK)	12081 and higher
DXC-102 (J)	10471 and higher
DXC-102 (UC)	10661 and higher
DXC-102P (EK)	11071 and higher



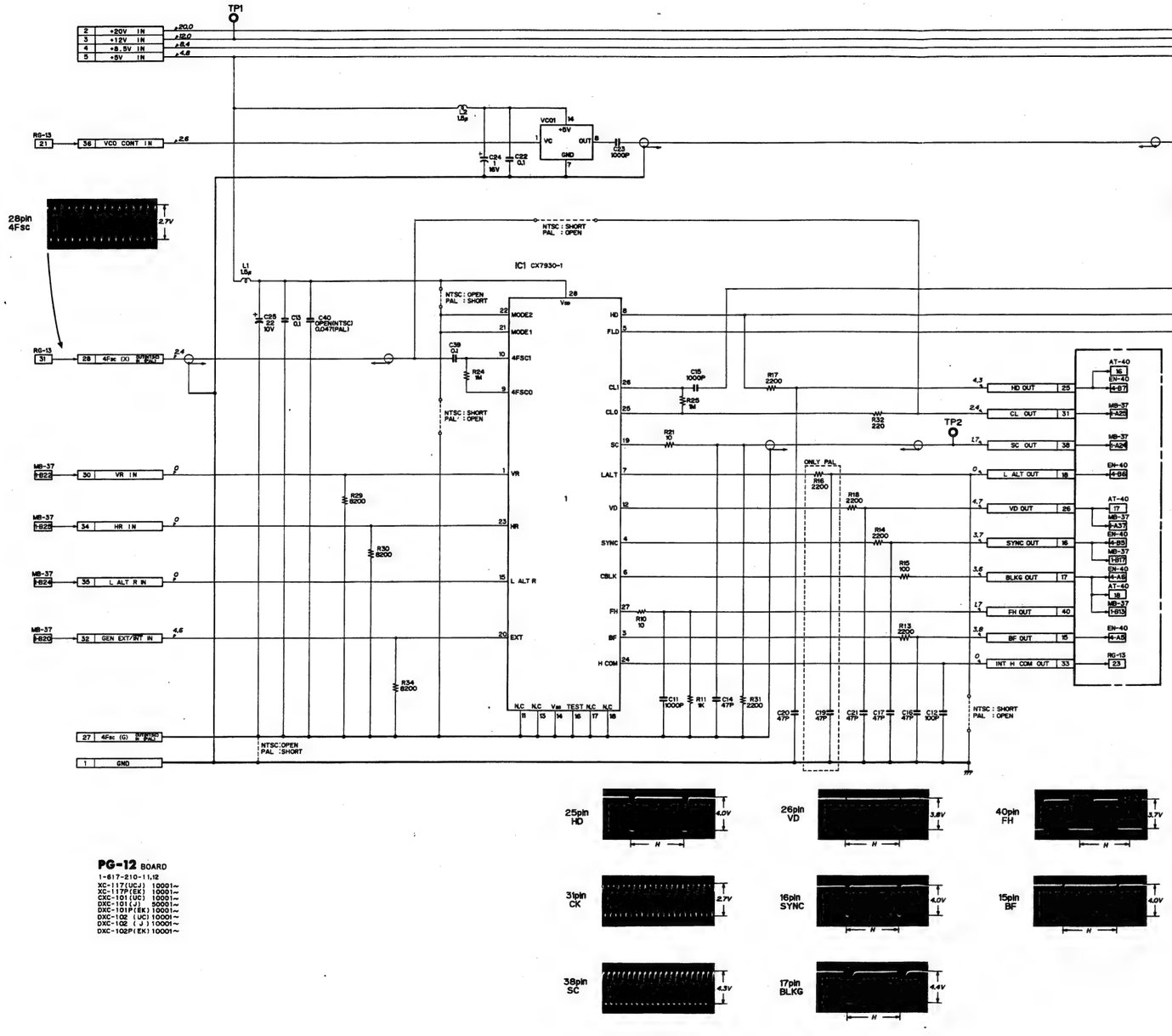
— SOLDERING SIDE —

PG-12 BOARD

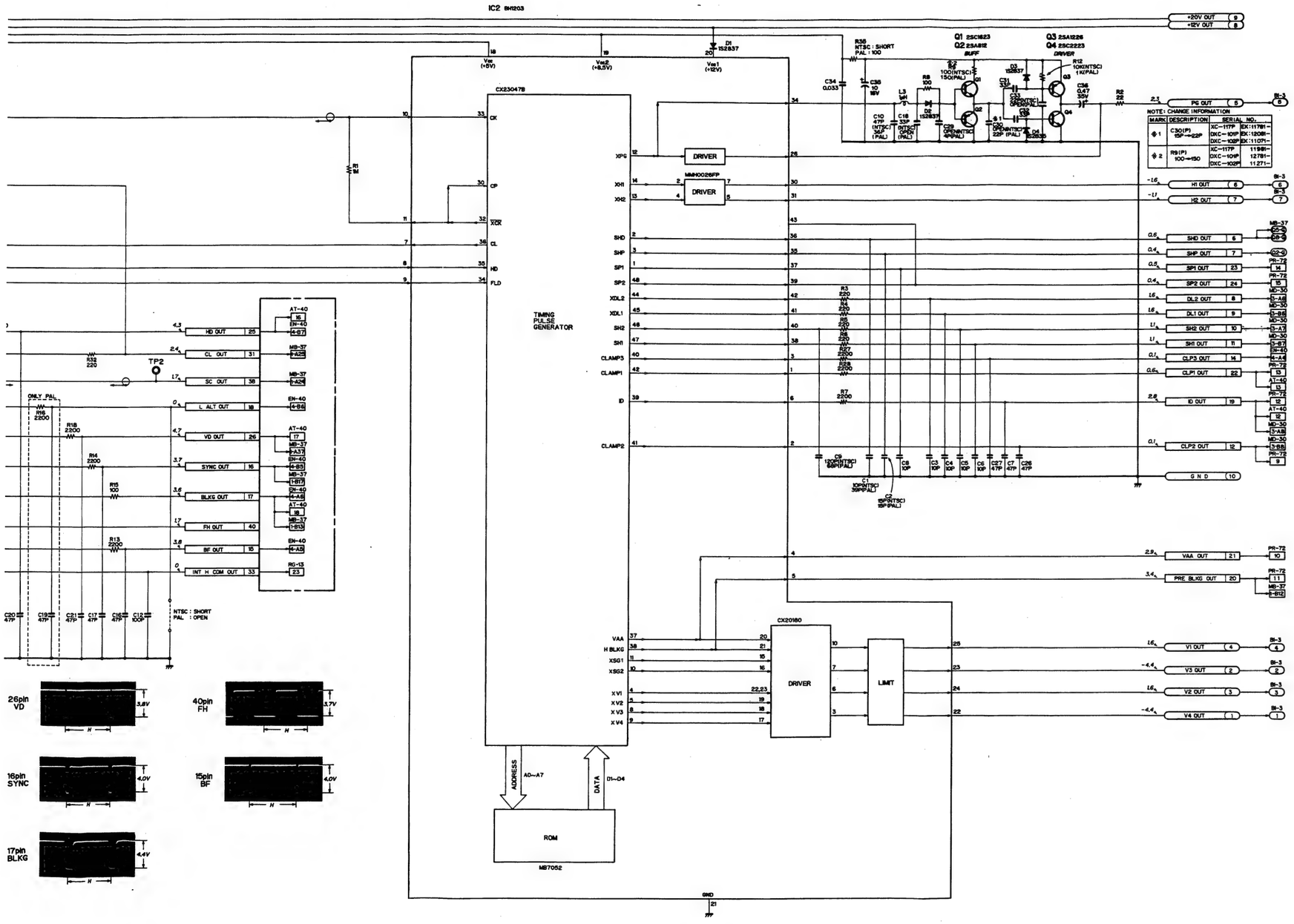
1-617-210-12

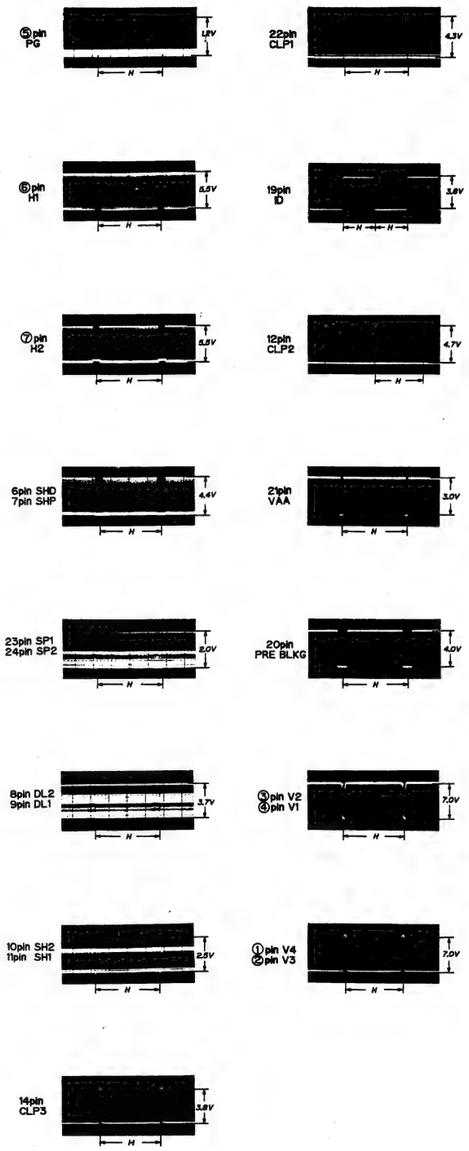
XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P (EK)
DXC-102 (UC,J)
DXC-102P (EK)

PG-12 BOARD (SYNC AND TIMING PULSE GEN)



PG-12 BOARD
1-617-210-11,12
XC-117(UCJ) 10001~
XC-117P(EK) 10001~
CXC-101(UC) 10001~
DXC-101(J) 50001~
DXC-101P(EK) 10001~
DXC-102 (UC) 10001~
DXC-102 (J) 10001~
DXC-102P(EK) 10001~



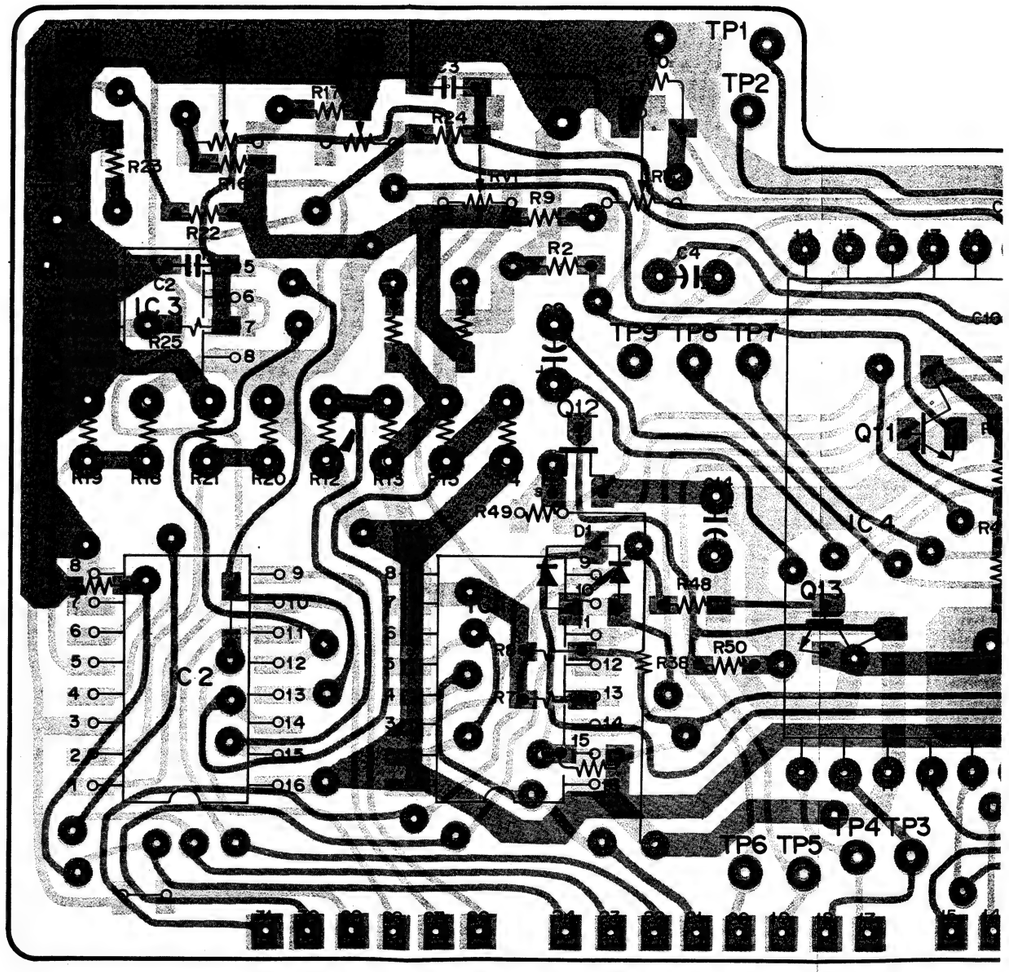


注意：
DC電圧はデジタル電圧計にて測定。

NOTE:
All voltage are mesured with a digital voltmeter (inpu resistance 10 MΩ).

PR-72 BOARD

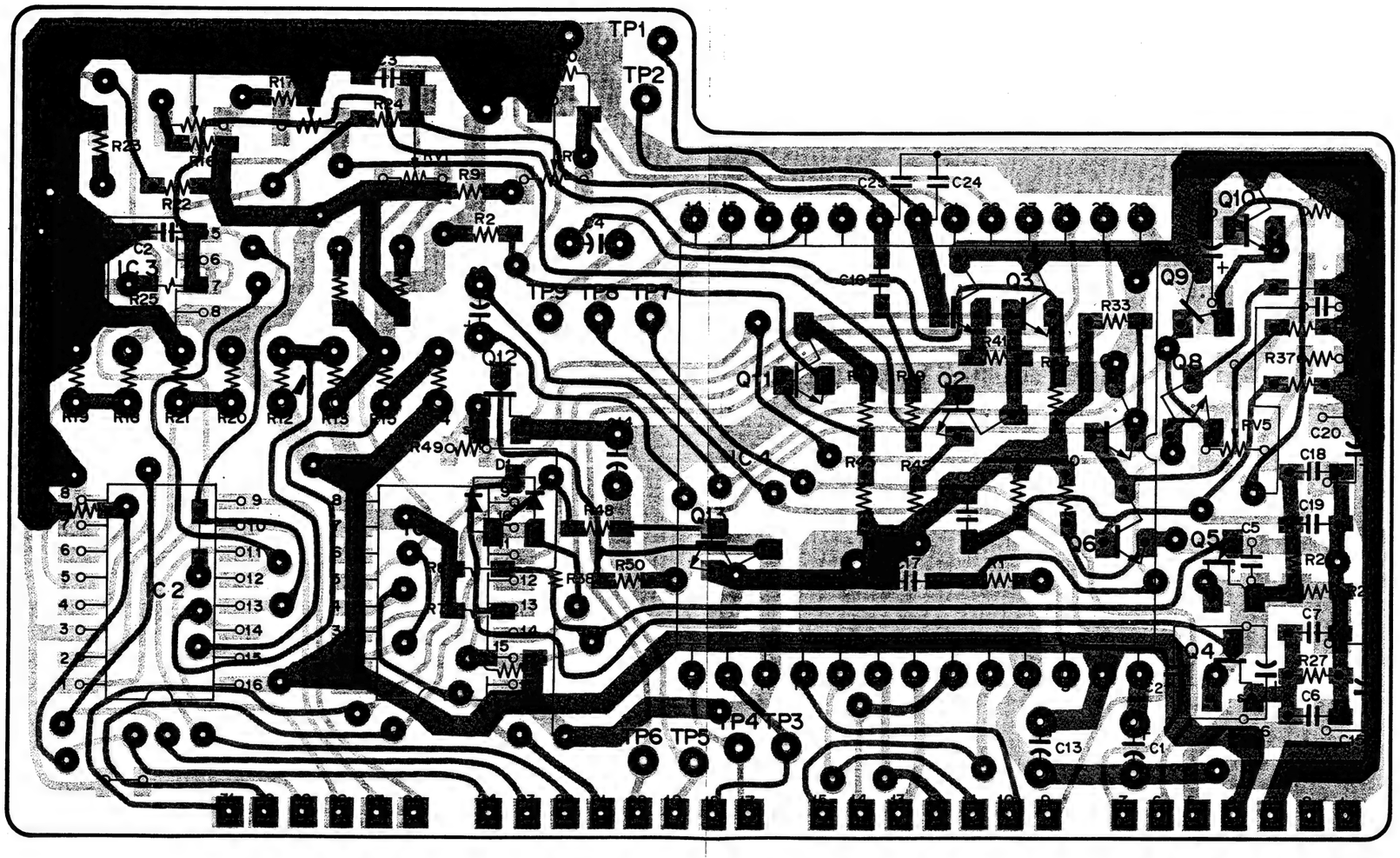
SERIAL NO.	
DXC-101 (J)	Up to 50430
DXC-101 (UC)	Up to 10220
DXC-101P (EK)	Up to 10260
DXC-102 (J)	Up to 10190
DXC-102 (UC)	Up to 10180
DXC-102P (EK)	Up to 10310



V03121 / Druck 27

PR-72 BOARD

SERIAL NO.	
DXC-101 (J)	Up to 50430
DXC-101 (UC)	Up to 10220
DXC-101P (EK)	Up to 10260
DXC-102 (J)	Up to 10190
DXC-102 (UC)	Up to 10180
DXC-102P (EK)	Up to 10310



— SOLDERING SIDE —

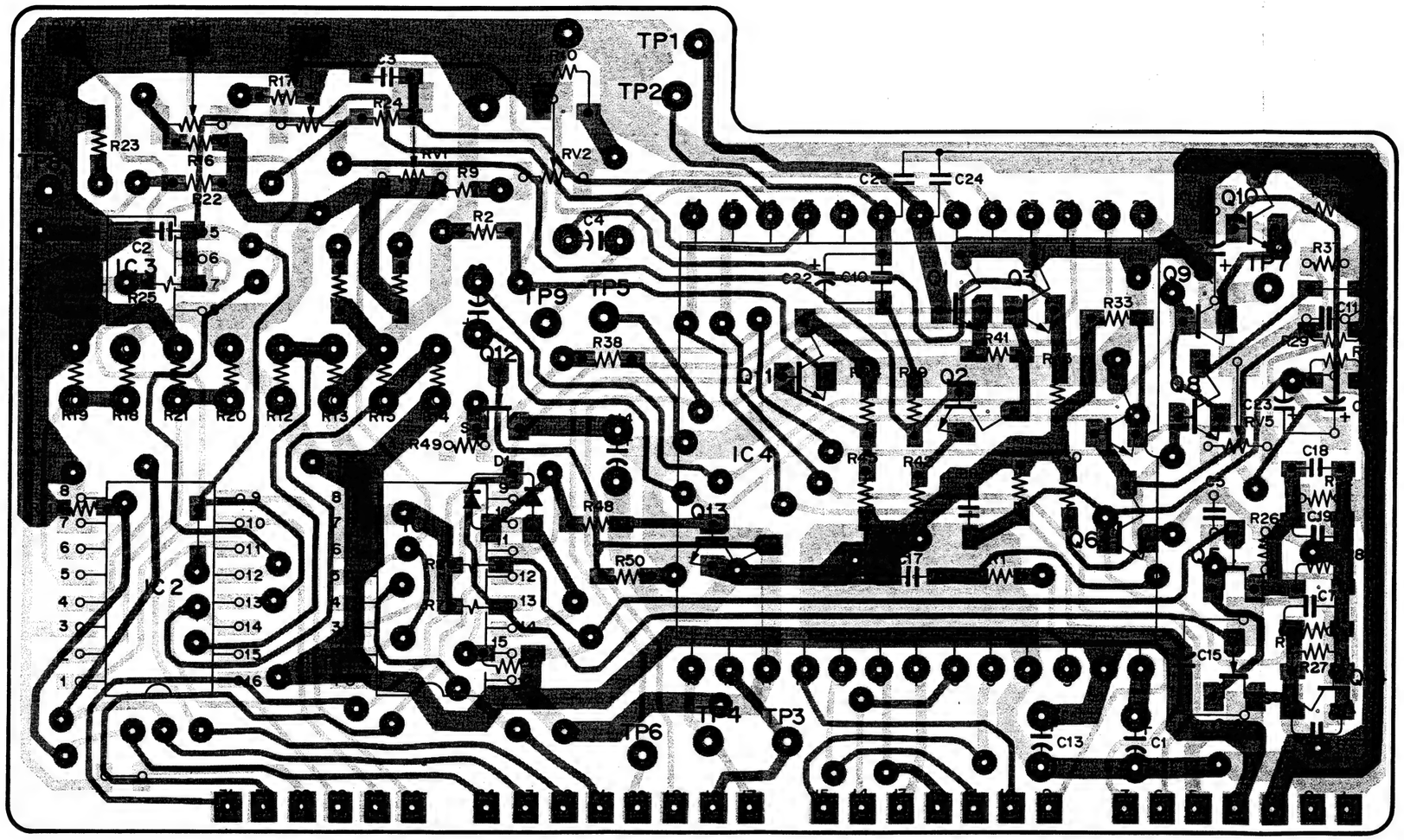
PR-72 BOARD

1-617-214-11

XC — 117 (UCJ)
XC — 117P (EK)
DXC — 101 (UC, J)
DXC — 101P (EK)
DXC — 102 (UC,J)
DXC — 102P (EK)

PR-72 BOARD

SERIAL NO.	
DXC-101 (J)	50431 to 50790
DXC-101 (UC)	10221 to 10830
DXC-101P (EK)	10261 to 11080
DXC-102 (J)	10191 to 10380
DXC-102 (UC)	10181 to 10610
DXC-102P (EK)	10311 to 10920



— SOLDERING SIDE —

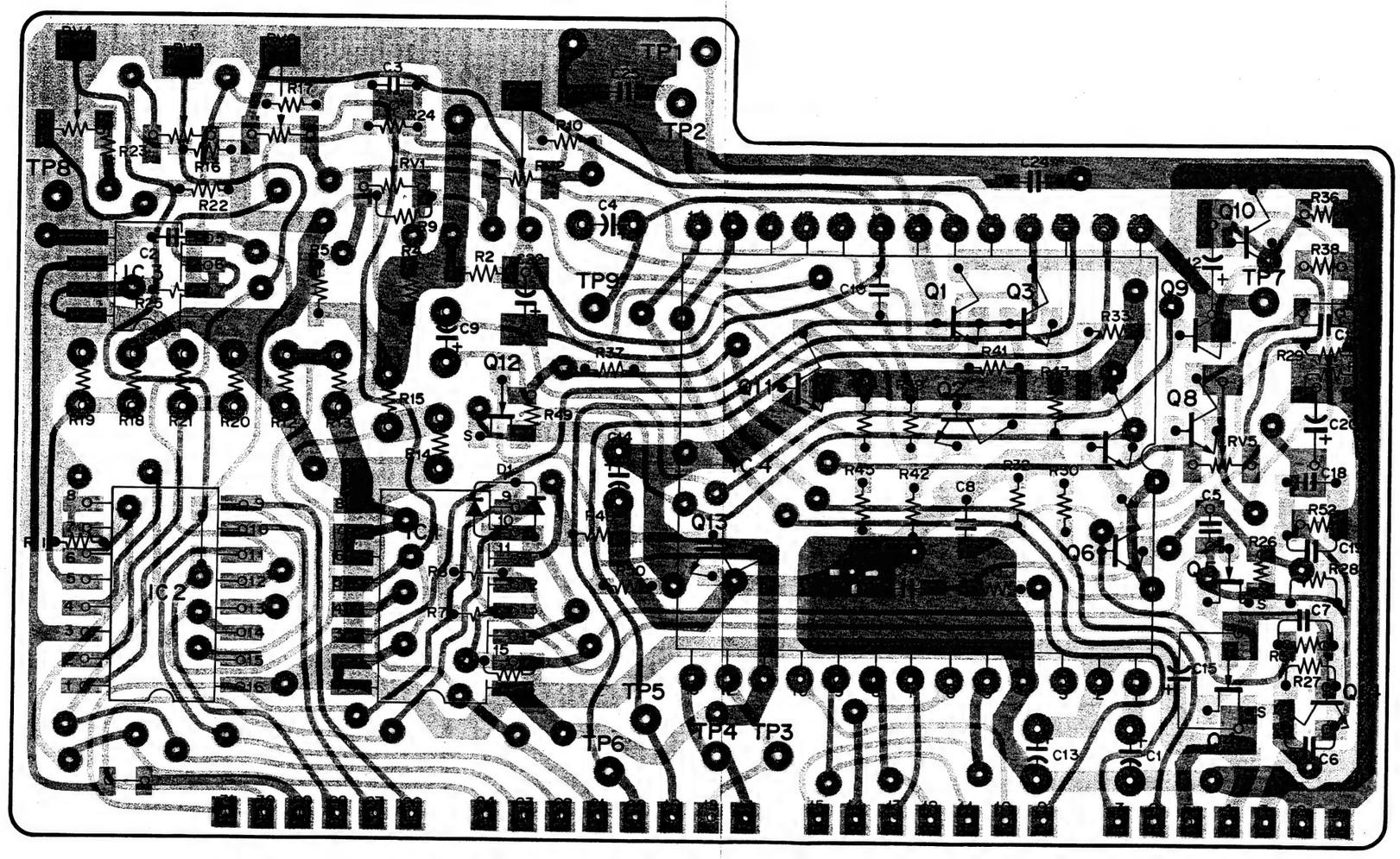
PR-72 BOARD

1-617-214-12

XC — 117 (UCJ)
XC — 117P (EK)
DXC — 101 (UC, J)
DXC — 101P (EK)
DXC — 102 (UC,J)
DXC — 102P (EK)

PR-72 BOARD

SERIAL NO.	
DXC-101 (J)	50791 and higher
DXC-101 (UC)	10831 and higher
DXC-101P (EK)	11081 and higher
DXC-102 (J)	10381 and higher
DXC-102 (UC)	10611 and higher
DXC-102P (EK)	10921 and higher



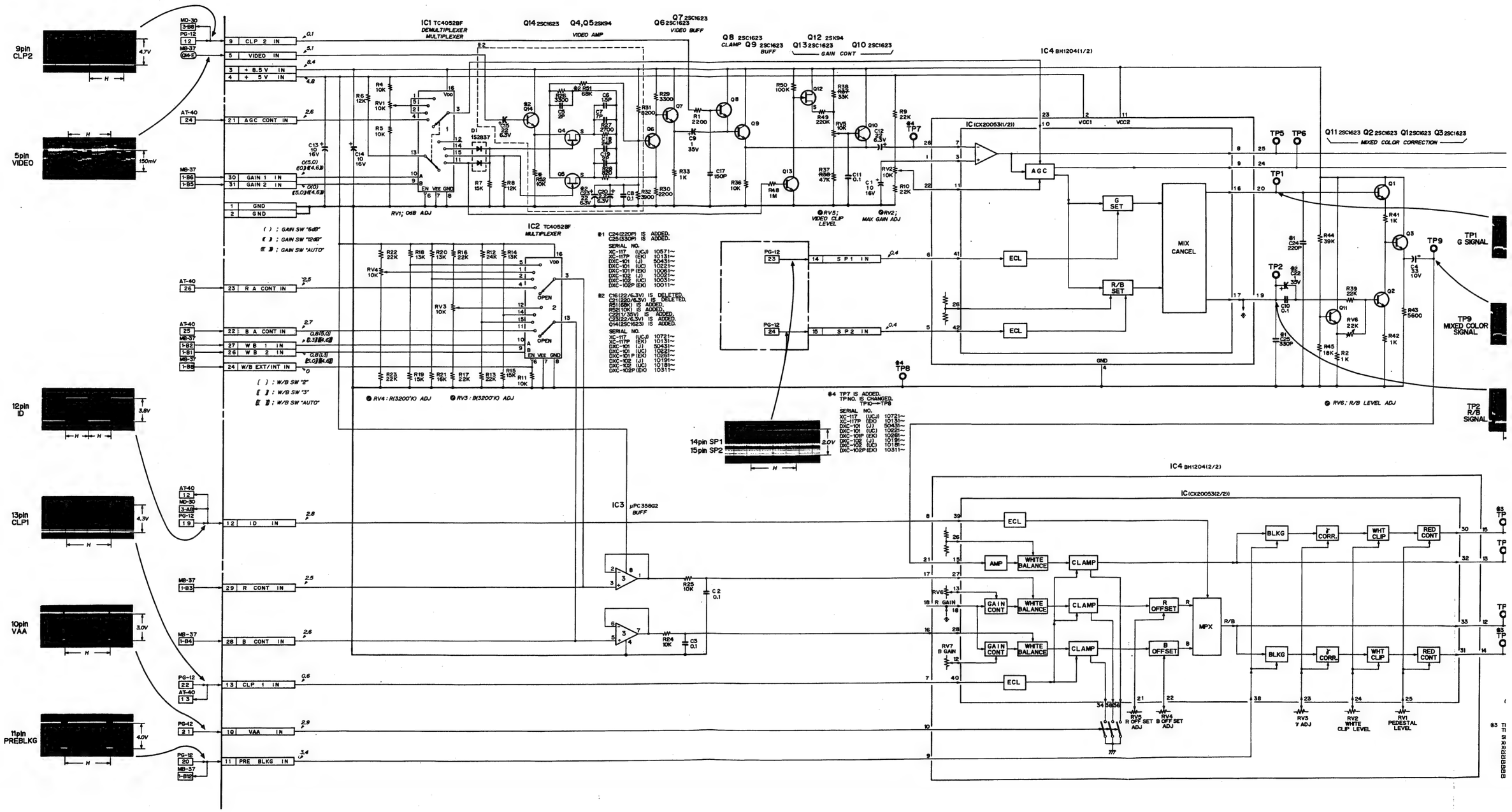
— SOLDERING SIDE—

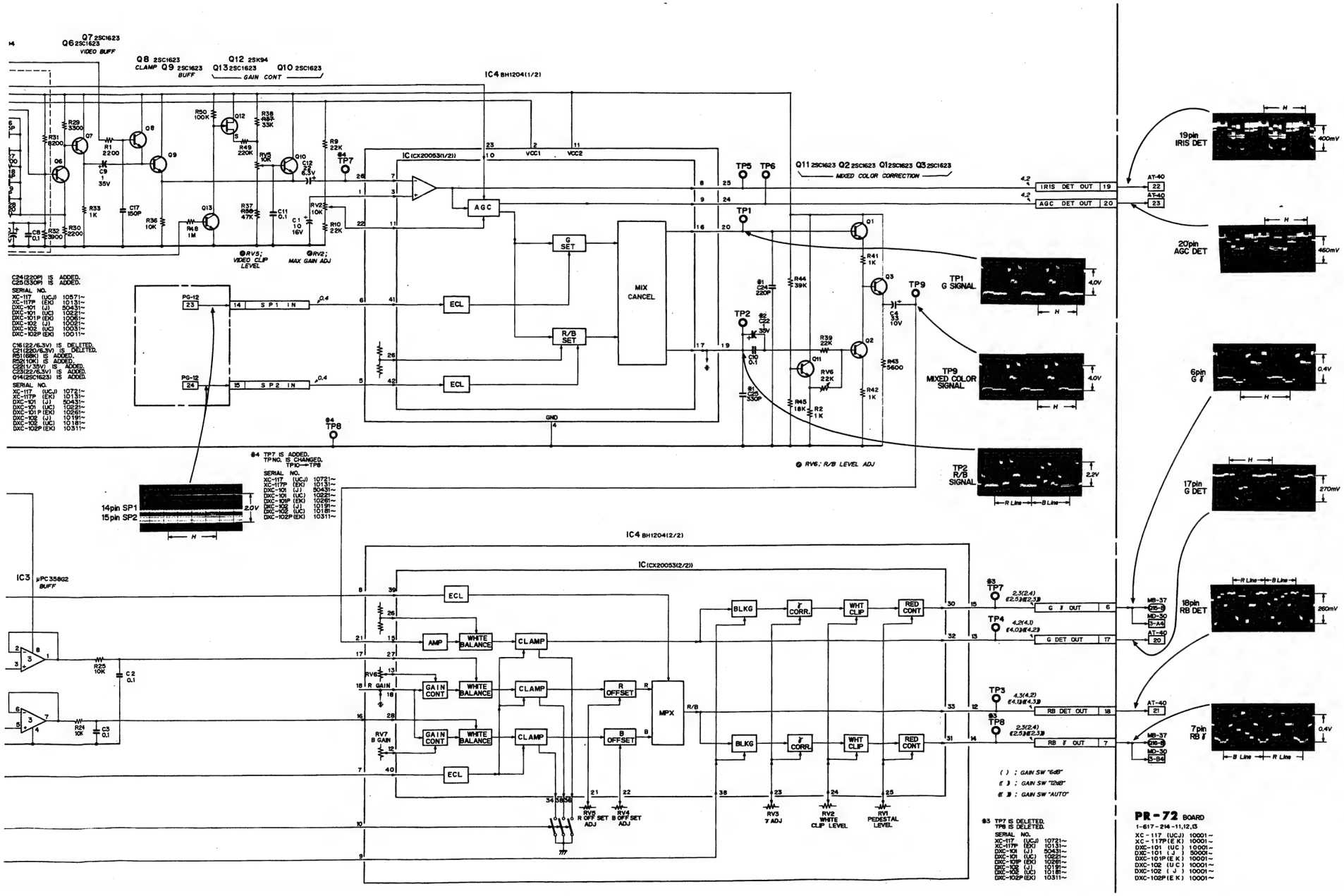
PR-72 BOARD

1-617-214-13

XC — 117 (UCJ)
XC — 117P (EK)
DXC — 101 (UC, J)
DXC — 101P (EK)
DXC — 102 (UC,J)
DXC — 102P (EK)

PR-72 BOARD (PROCESSOR)





C24(220P) IS ADDED.
C25(330P) IS ADDED.

SERIAL NO.	
XC-117 (UCJ)	10571~
XC-117P (EK)	10131~
DXC-101 (J)	50431~
DXC-101 (UC)	10221~
DXC-101P (EK)	10261~
DXC-102 (J)	10021~
DXC-102 (UC)	10031~
DXC-102P (EK)	10011~

C16(22/6.3V) IS DELETED.
CA21(220/6.3V) IS DELETED.
R51(68K) IS ADDED.
R52(10K) IS ADDED.
C38(1.5PV) IS ADDED.
C39(22/6.3V) IS ADDED.
Q14(2SC1623) IS ADDED.

SERIAL NO.	
XC-117 (UCJ)	10721~
XC-117P (EK)	10131~
DXC-101 (J)	50431~
DXC-101 (UC)	10221~
DXC-101P (EK)	10261~
DXC-102 (J)	10191~
DXC-102 (UC)	10181~
DXC-102P (EK)	10311~

#4 TP7 IS ADDED.
TP NO. IS CHANGED.
TP8 → TP8

SERIAL NO.	
XC-117 (UCJ)	10721~
XC-117P (EK)	10131~
DXC-101 (J)	50431~
DXC-101 (UC)	10221~
DXC-101P (EK)	10261~
DXC-102 (J)	10191~
DXC-102 (UC)	10181~
DXC-102P (EK)	10311~

#3 TP7 IS DELETED.
TP8 IS DELETED.

SERIAL NO.	
XC-117 (UCJ)	10721~
XC-117P (EK)	10131~
DXC-101 (J)	50431~
DXC-101 (UC)	10221~
DXC-101P (EK)	10261~
DXC-102 (J)	10191~
DXC-102 (UC)	10181~
DXC-102P (EK)	10311~

PR-72 BOARD 1-617-214-11,12,13	
XC-117 (UCJ)	10001~
XC-117P (EK)	10001~
DXC-101 (UC)	10001~
DXC-101 (J)	50001~
DXC-101P (EK)	10001~
DXC-102 (UC)	10001~
DXC-102 (J)	10001~
DXC-102P (EK)	10001~

注意：

1．DC電圧はデジタル電圧計による値。

2．波形写真は下記条件で撮影。

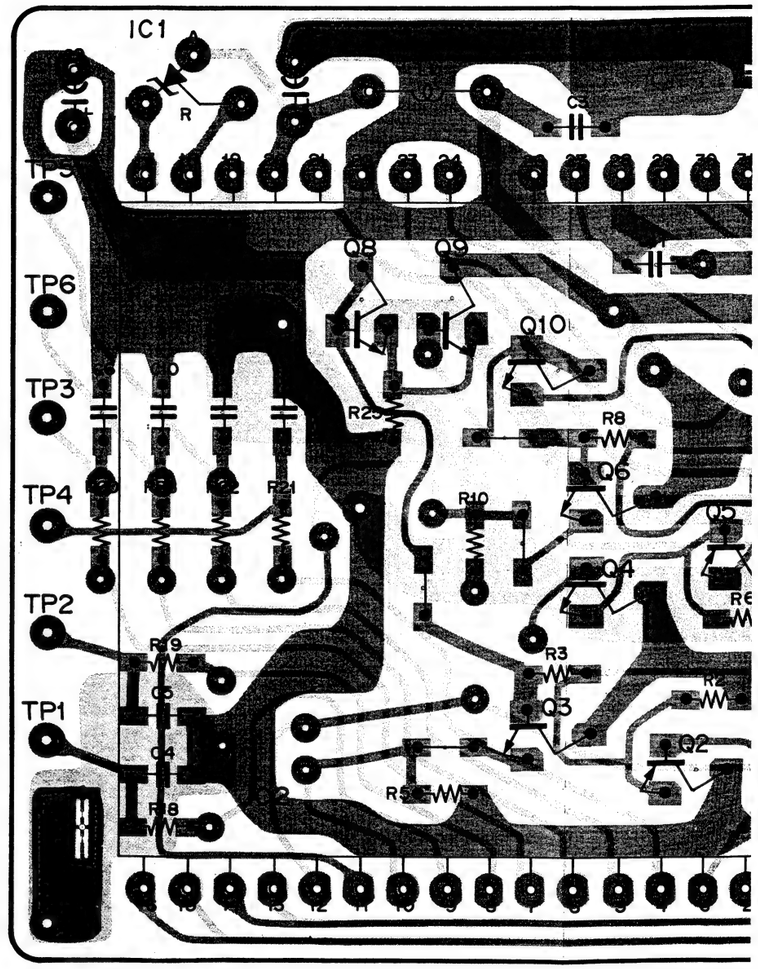
- MB-37基板，TP1にてカラーバーの白部分が150mVp-pになる様レンズアイリスをセットする。
  (F≒4，波形モニターで100IRE)
- WHITE BALスイッチ→"1(3200°K)"位置
- GAINスイッチ→"0dB"位置

NOTE:

1. All voltage are dc, measured with a digital voltmeter (input resistance 10 MΩ).
2. All waveforms are taken in conditions below.
   - Shoot the color bar pattern on the pattern box.
     Adjust lens iris so that a white level at TP1/MB-37 board is 150 mV. [F≒4, White level on the waveform monitor is 100 IRE (700 mV for PAL)]
   - Set camera WHITE BAL switch to "1 (3200° K)".
   - Set camera GAIN switch to "0 dB".

MD-30 BOARD

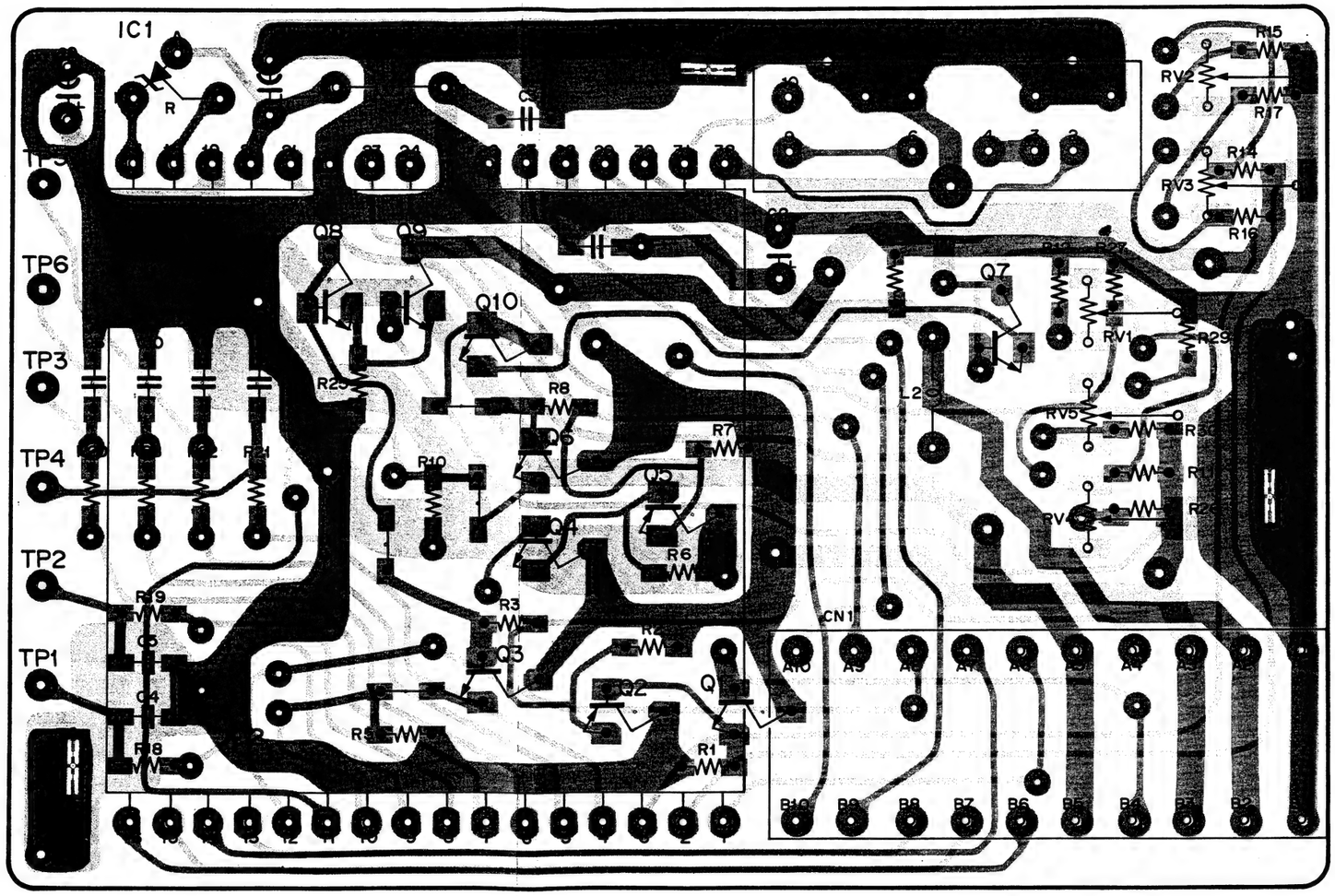
SERIAL NO.	
DXC-101 (J)	Up to 50180
DXC-101 (UC)	Up to 10220
DXC-101P (EK)	Up to 10060
DXC-102 (J)	Up to 10020
DXC-102 (UC)	Up to 10030
DXC-102P (EK)	Up to 10010



6-15(a)

MD-30 BOARD

SERIAL NO.	
DXC-101 (J)	Up to 50180
DXC-101 (UC)	Up to 10220
DXC-101P (EK)	Up to 10060
DXC-102 (J)	Up to 10020
DXC-102 (UC)	Up to 10030
DXC-102P (EK)	Up to 10010



—SOLDERING SIDE—

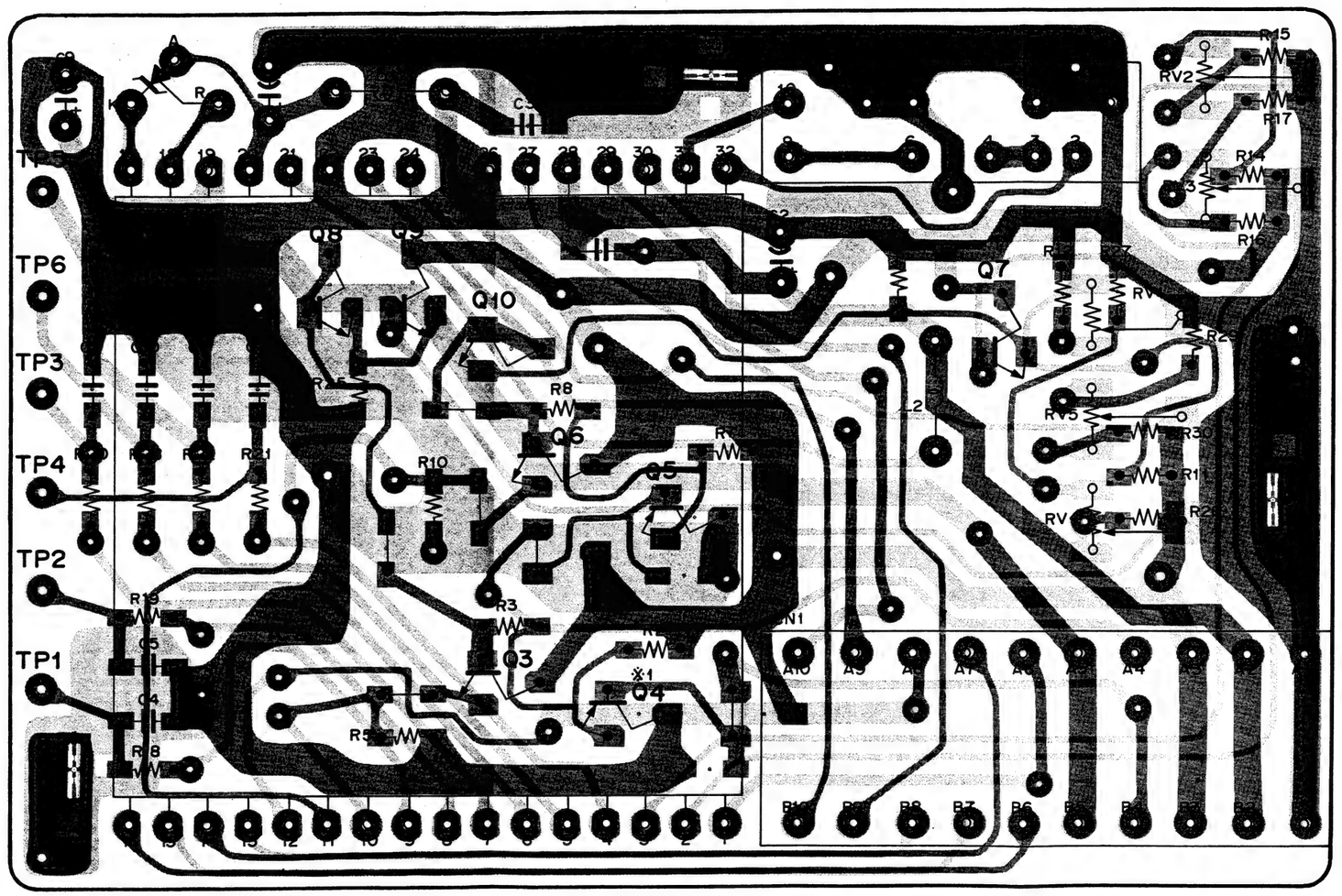
MD-30 BOARD

1-617-212-11

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P (EK)

MD-30 BOARD

SERIAL NO.	
DXC-101 (J)	50181 to 51290
DXC-101 (UC)	10221 to 11180
DXC-101P (EK)	10061 to 12080
DXC-102 (J)	10021 to 10470
DXC-102 (UC)	10031 to 10660
DXC-102P (EK)	10011 to 11070



※1 Q NO IS CHANGED
Q2 → Q4
SER. NO.

XC-117 (UCJ)	10721~
XC-117P (EK)	10131~
DXC-101 (J)	50431~
DXC-101 (UC)	10221~
DXC-101P(EK)	10261~
DXC-102 (J)	10191~
DXC-102 (UC)	10181~
DXC-102P(EK)	10311~

— SOLDERING SIDE —

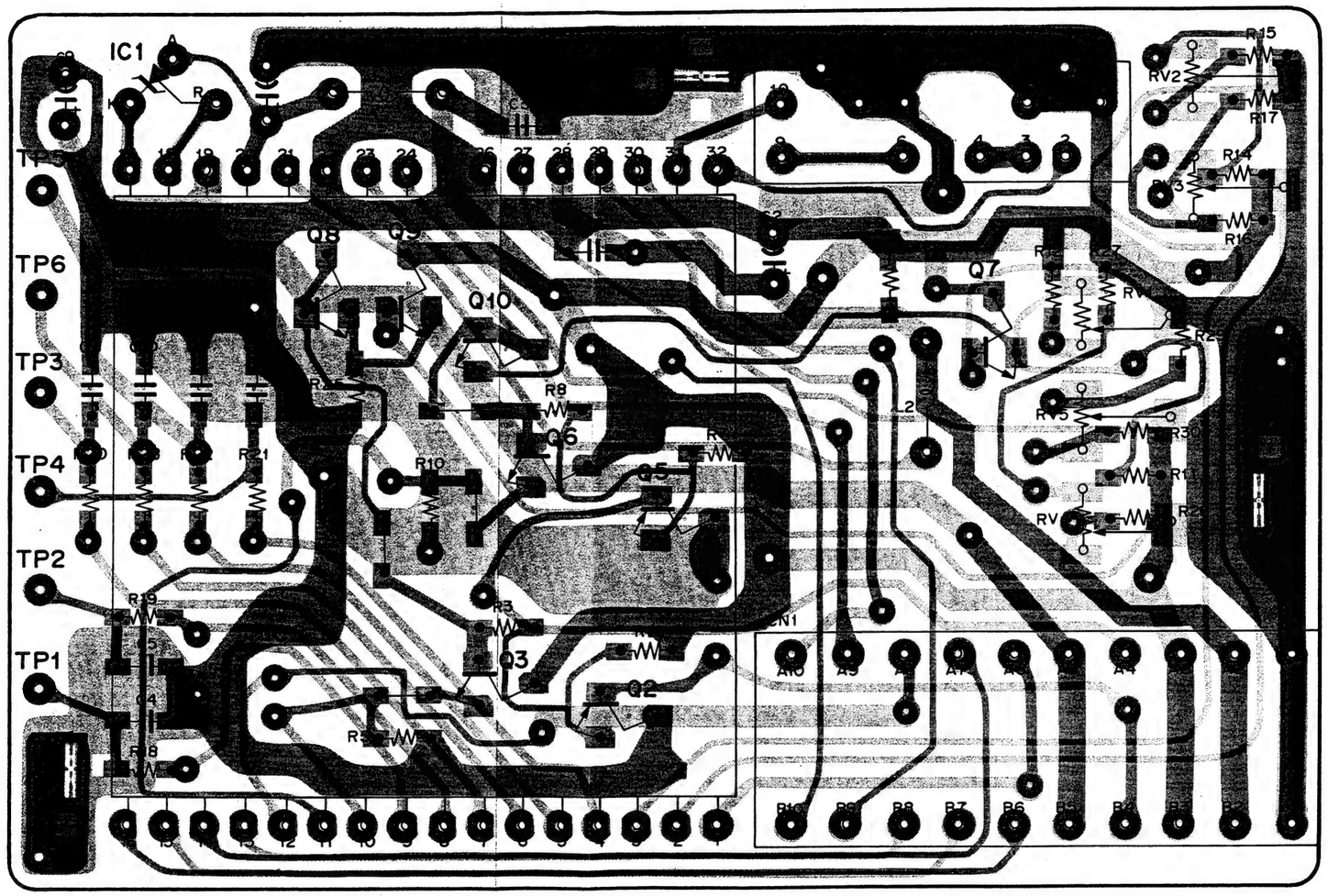
MD-30 BOARD

1-617-212-12

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC, J)
DXC-101P (EK)
DXC-102 (UC,J)
DXC-102P (EK)

MD-30 BOARD

SERIAL NO.	
DXC-101 (J)	51291 and higher
DXC-101 (UC)	11181 and higher
DXC-101P (EK)	12081 and higher
DXC-102 (J)	10471 and higher
DXC-102 (UC)	10661 and higher
DXC-102P (EK)	11071 and higher



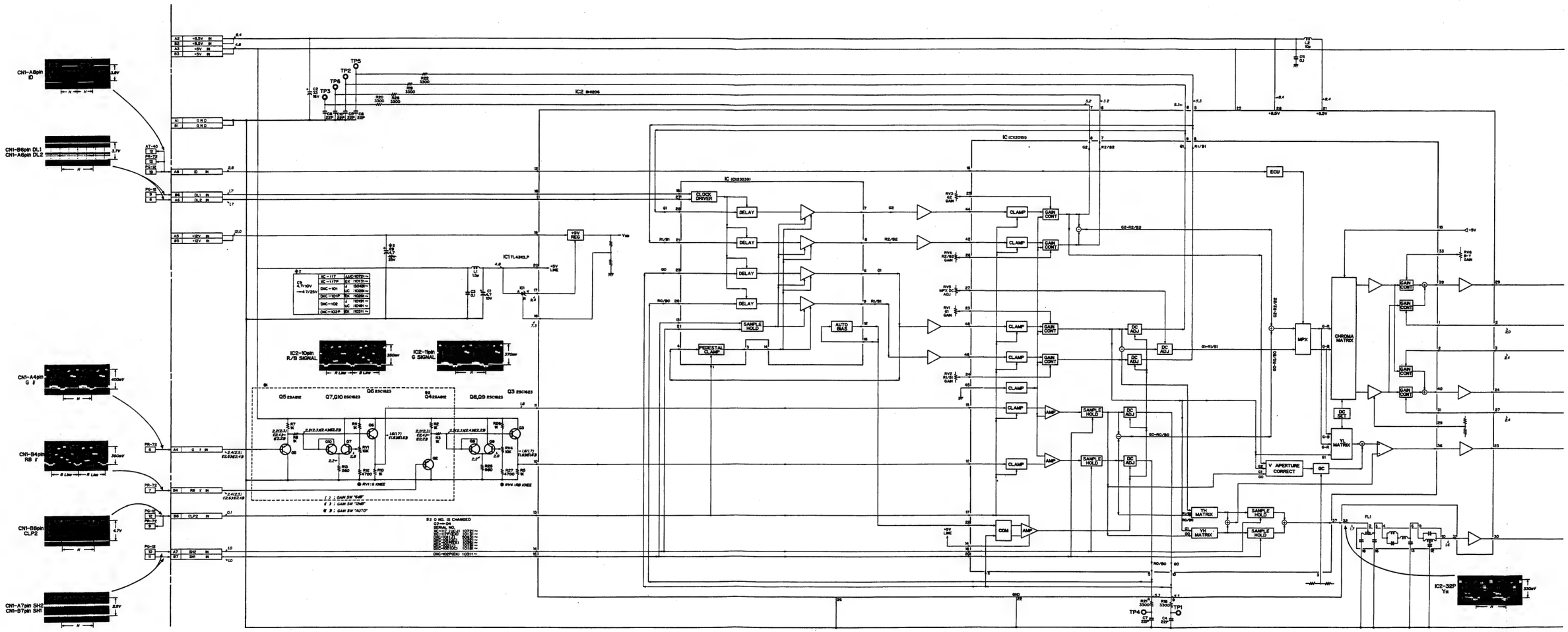
— SOLDERING SIDE —

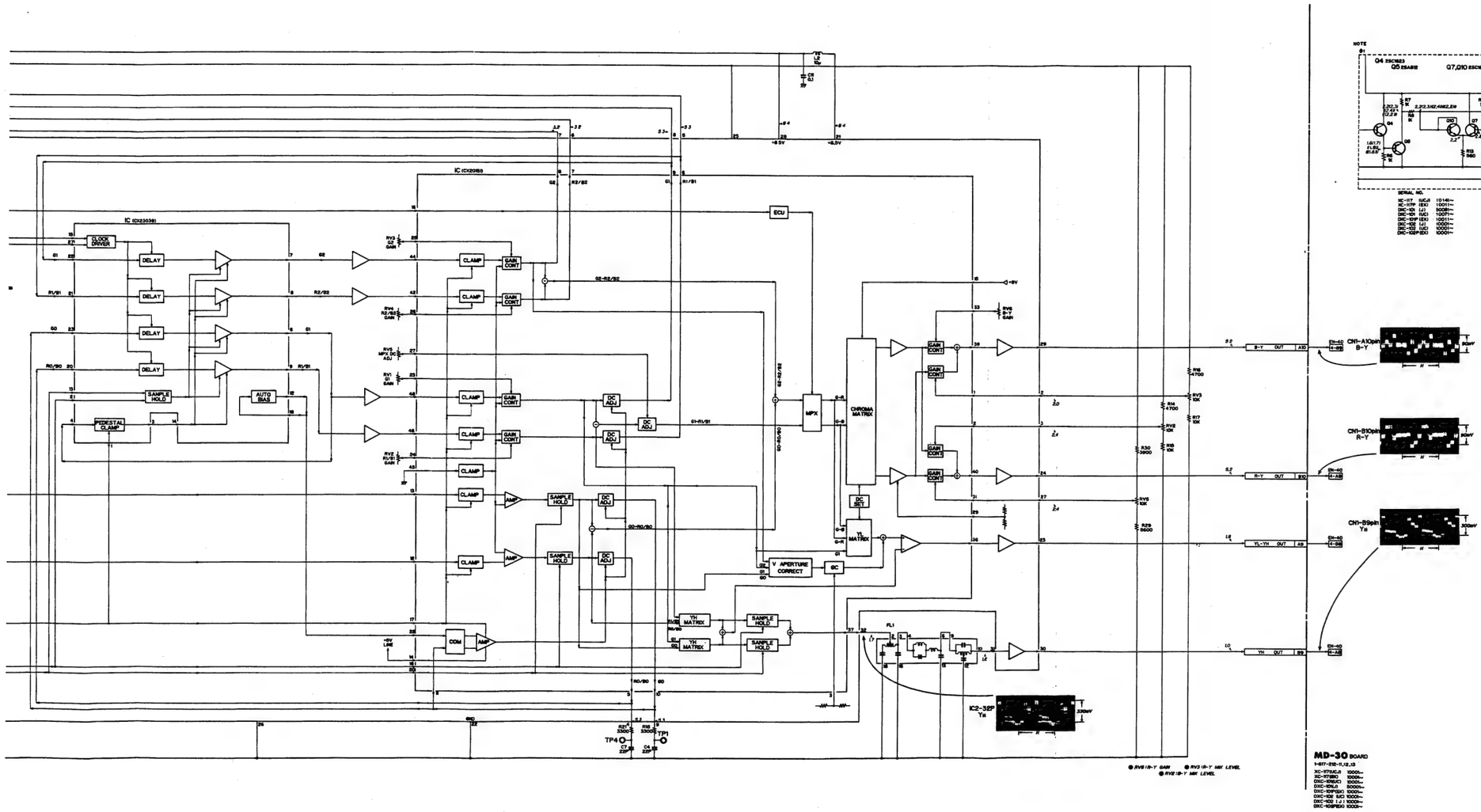
MD-30 BOARD

1-617-212-13

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P (EK)
DXC-102 (UC,J)
DXC-102P (EK)

MD-30 BOARD (YH, YL-YH, R-Y, B-Y MATRIX)





注意：

1．DC電圧はデジタル電圧計による値。

2．波形写真は下記条件で撮影。

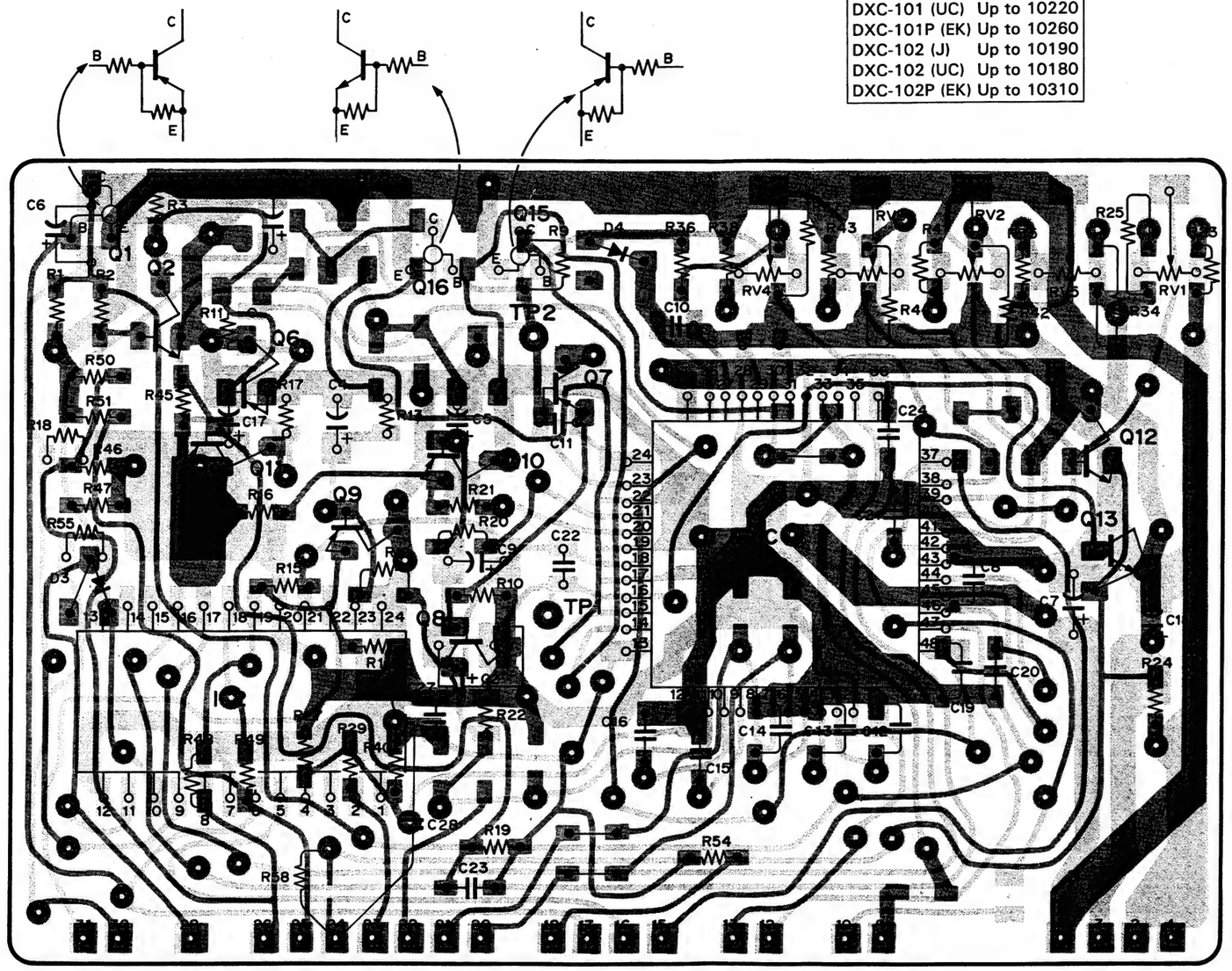
- MB-37基板，TP1にてカラーバーの1部分が150mVp-pになる様レンズアイリスをセットする。
  (F≒4，波形モニターで100IRE)
- WHITE BALスイッチ→"1(3200°K)"位置
- GAINスイッチ→"0dB"位置

NOTE:

1. All voltage are dc, measured with a digital voltmeter (input resistance 10 MΩ).
2. All waveforms are taken in conditions below.
   - Shoot the color bar pattern on the pattern box.
     Adjust lens iris so that a white level at TP1/MB-37 board is 150 mV. [F≒4, White level on the waveform monitor is 100 IRE (700 mV for PAL)]
   - Set camera WHITE BAL switch to "1 (3200° K)".
   - Set camera GAIN switch to "0 dB".

AT-40 BOARD

SERIAL NO.	
DXC-101 (J)	Up to 50430
DXC-101 (UC)	Up to 10220
DXC-101P (EK)	Up to 10260
DXC-102 (J)	Up to 10190
DXC-102 (UC)	Up to 10180
DXC-102P (EK)	Up to 10310

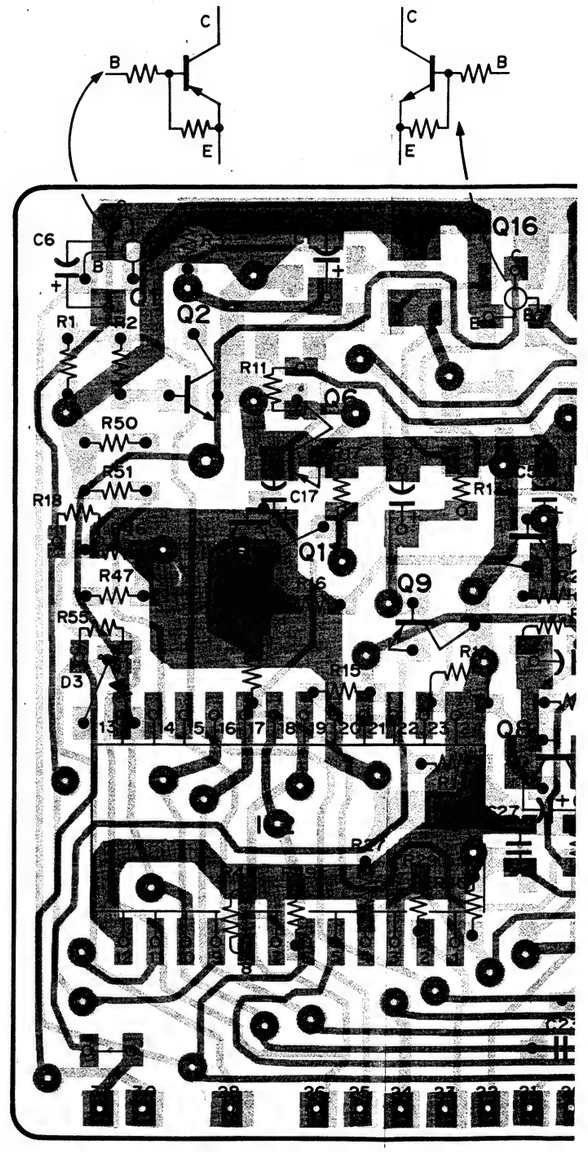


—SOLDERING SIDE—

AT-40 BOARD

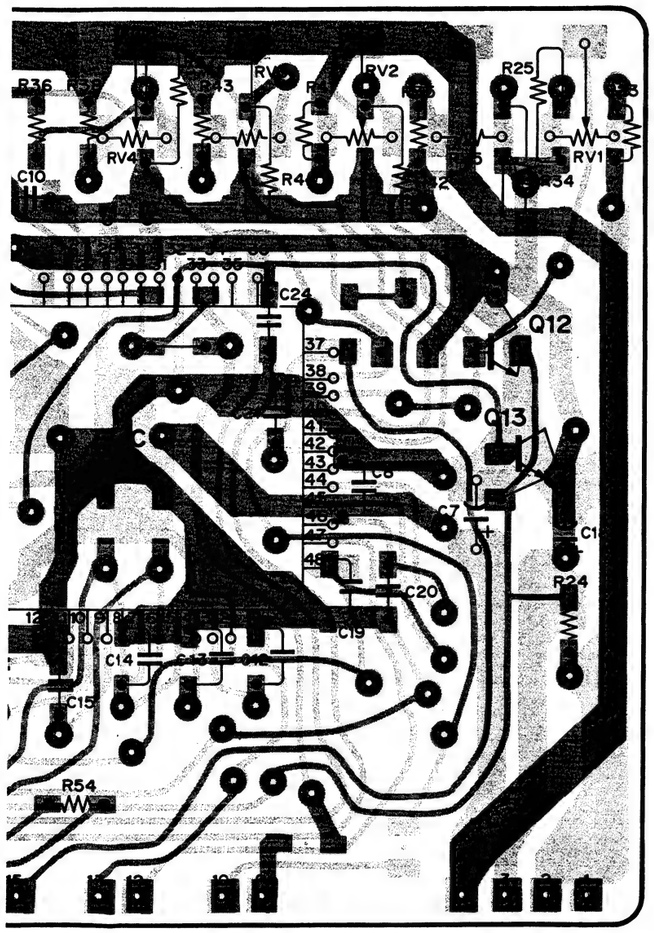
1-617-213-11

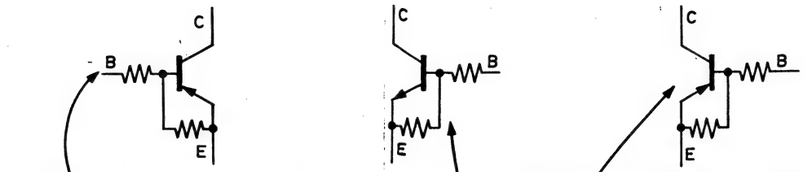
XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P (EK)
DXC-102 (UC,J)
DXC-102P (EK)

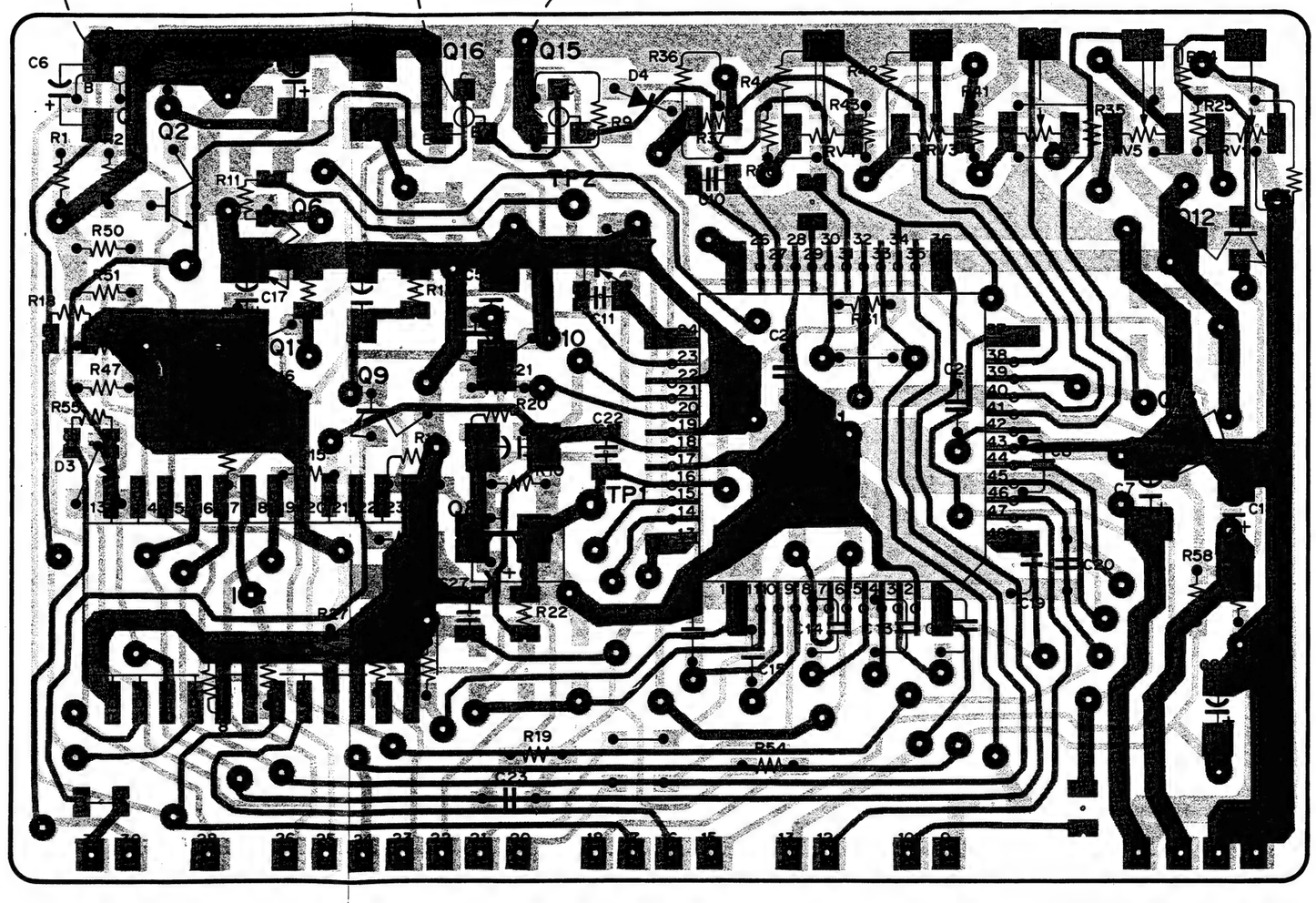


B

SERIAL NO.	
DXC-101 (J)	Up to 50430
DXC-101 (UC)	Up to 10220
DXC-101P (EK)	Up to 10260
DXC-102 (J)	Up to 10190
DXC-102 (UC)	Up to 10180
DXC-102P (EK)	Up to 10310







-SOLDERING SIDE-

AT-40 BOARD

1-617-213-11

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P (EK)
DXC-102 (UC,J)
DXC-102P (EK)

SERIAL NO.	
DXC-101 (J)	50431 and higher
DXC-101 (UC)	10221 and higher
DXC-101P (EK)	10261 and higher
DXC-102 (J)	10191 and higher
DXC-102 (UC)	10181 and higher
DXC-102P (EK)	10311 and higher

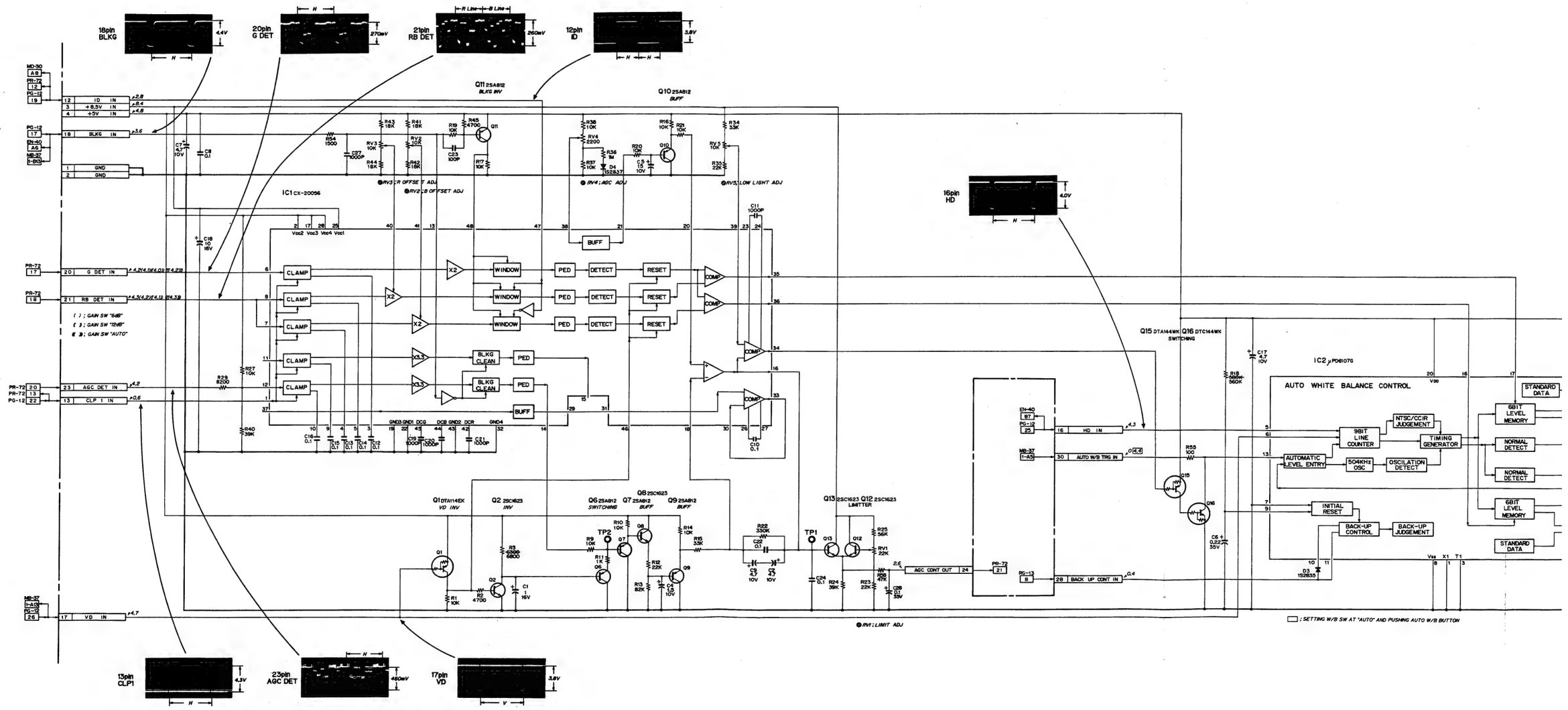
-SOLDERING SIDE-

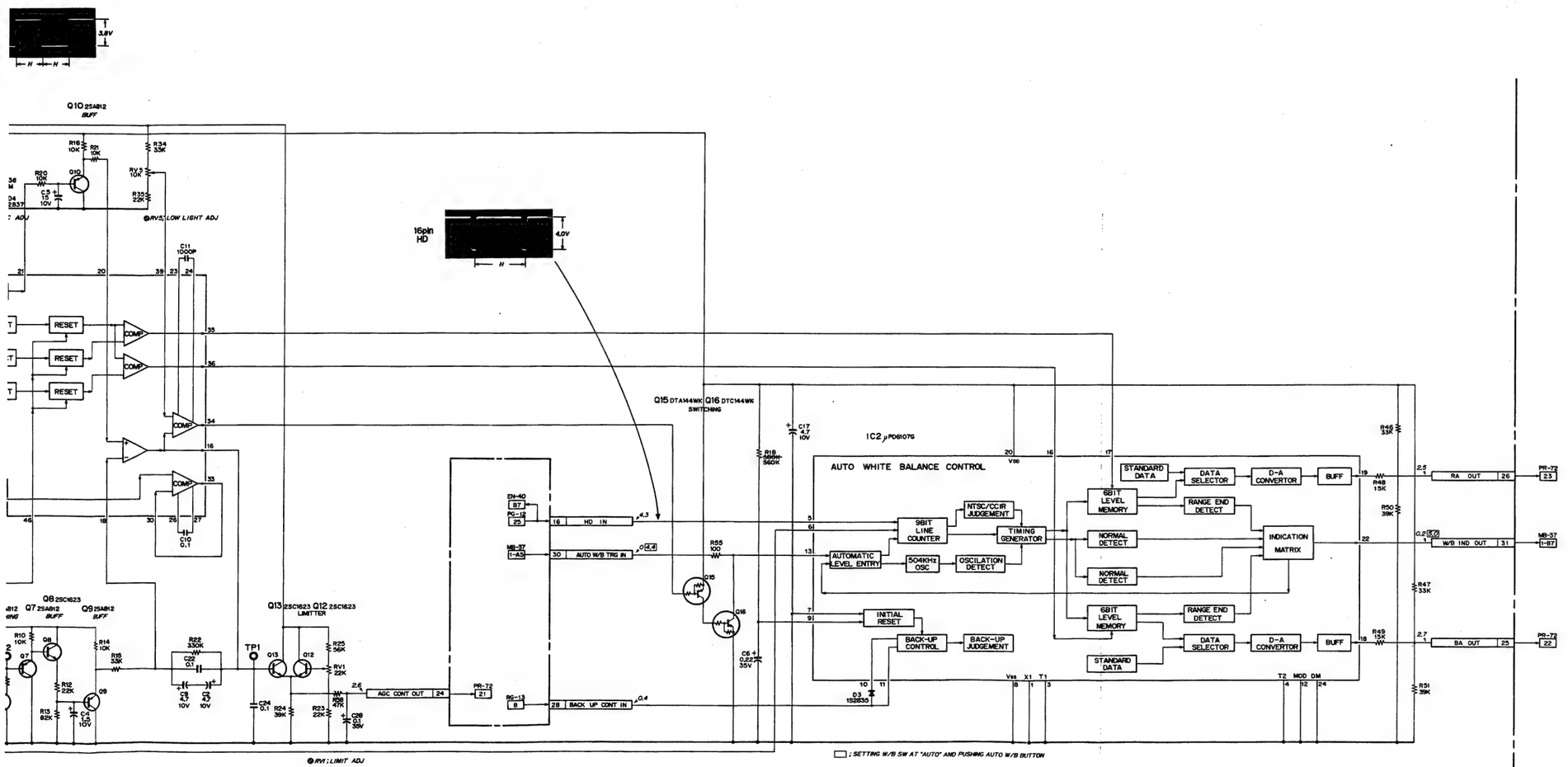
AT-40 BOARD

1-617-213-12

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P (EK)
DXC-102 (UC,J)
DXC-102P (EK)

AT-40 BOARD (AUTO CONTROL)





注意：

1．DC電圧はデジタル電圧計による値。

2．波形写真はド記条件で撮影。

- MB-37基板，TP1にてカラーバーのｆ1部分が150mVp-pになる様レンズアイリスをセットする。
  (F≒4，波形モニターで100IRE)
- WHITE BALスイッチ→"1(3200°K)"位置
- GAINスイッチ→"0dB"位置

NOTE:

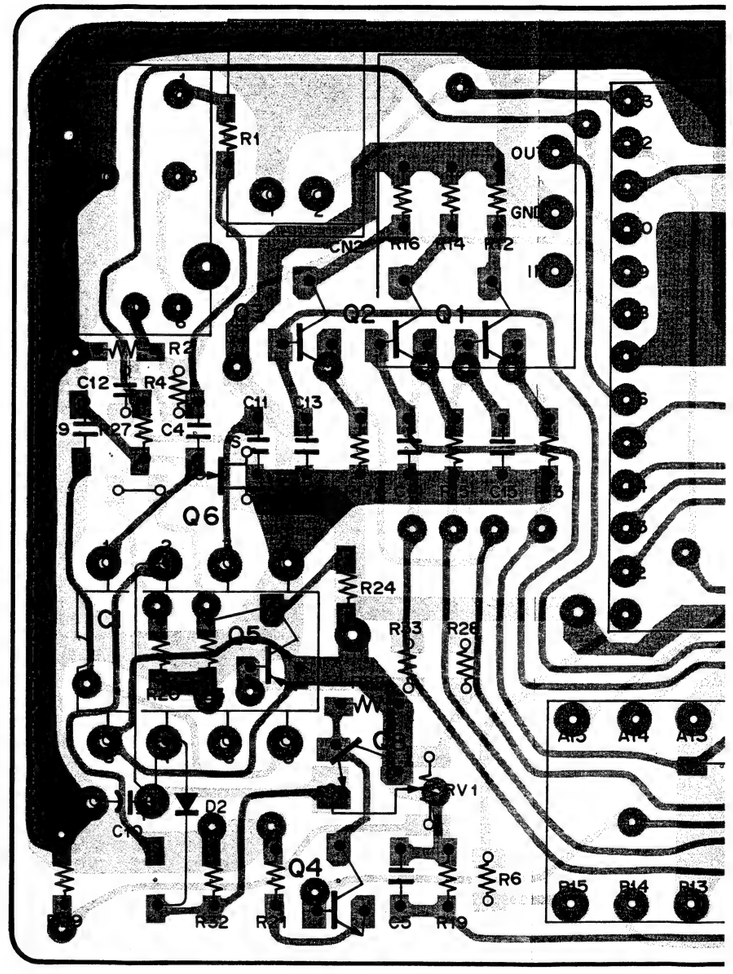
1. All voltage are dc, measured with a digital voltmeter (input resistance 10 MΩ).
2. All waveforms are taken in conditions below.
   - Shoot the color bar pattern on the pattern box.
     Adjust lens iris so that a white level at TP1/MB-37 board is 150 mV. [F≒4, White level on the waveform monitor is 100 IRE (700 mV for PAL)]
   - Set camera WHITE BAL switch to "1 (3200° K)".
   - Set camera GAIN switch to "0 dB".

AT-40 BOARD
1-617-213-11,12

XC-117(UCJ) 10001 ～
XC-117P(EK) 10001 ～
DXC-101(UC) 10001 ～
DXC-101(J) 50001 ～
DXC-101P(EK) 10001 ～
DXC-102 (UC) 10001 ～
DXC-102 (J) 10001 ～
DXC-102P(EK) 10001 ～

EN-40 BOARD

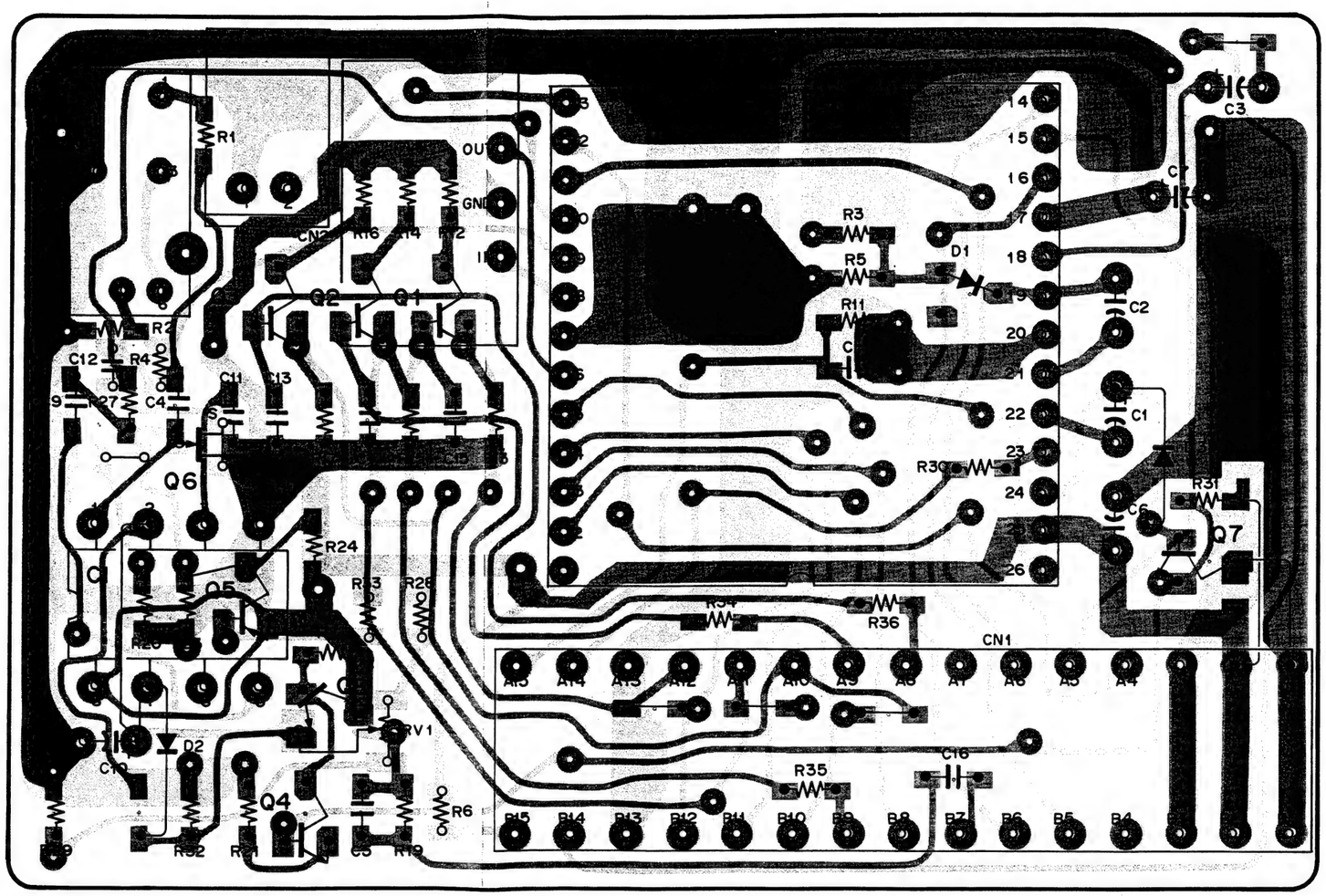
SERIAL NO.	
DXC-101 (J)	Up to 50180
DXC-101 (UC)	Up to 10220
DXC-101P (EK)	Up to 10060
DXC-102 (J)	Up to 10020
DXC-102 (UC)	Up to 10030
DXC-102P (EK)	Up to 10010



6-27(a)

EN-40 BOARD

SERIAL NO.	
DXC-101 (J)	Up to 50180
DXC-101 (UC)	Up to 10220
DXC-101P (EK)	Up to 10060
DXC-102 (J)	Up to 10020
DXC-102 (UC)	Up to 10030
DXC-102P (EK)	Up to 10010



–SOLDERING SIDE–

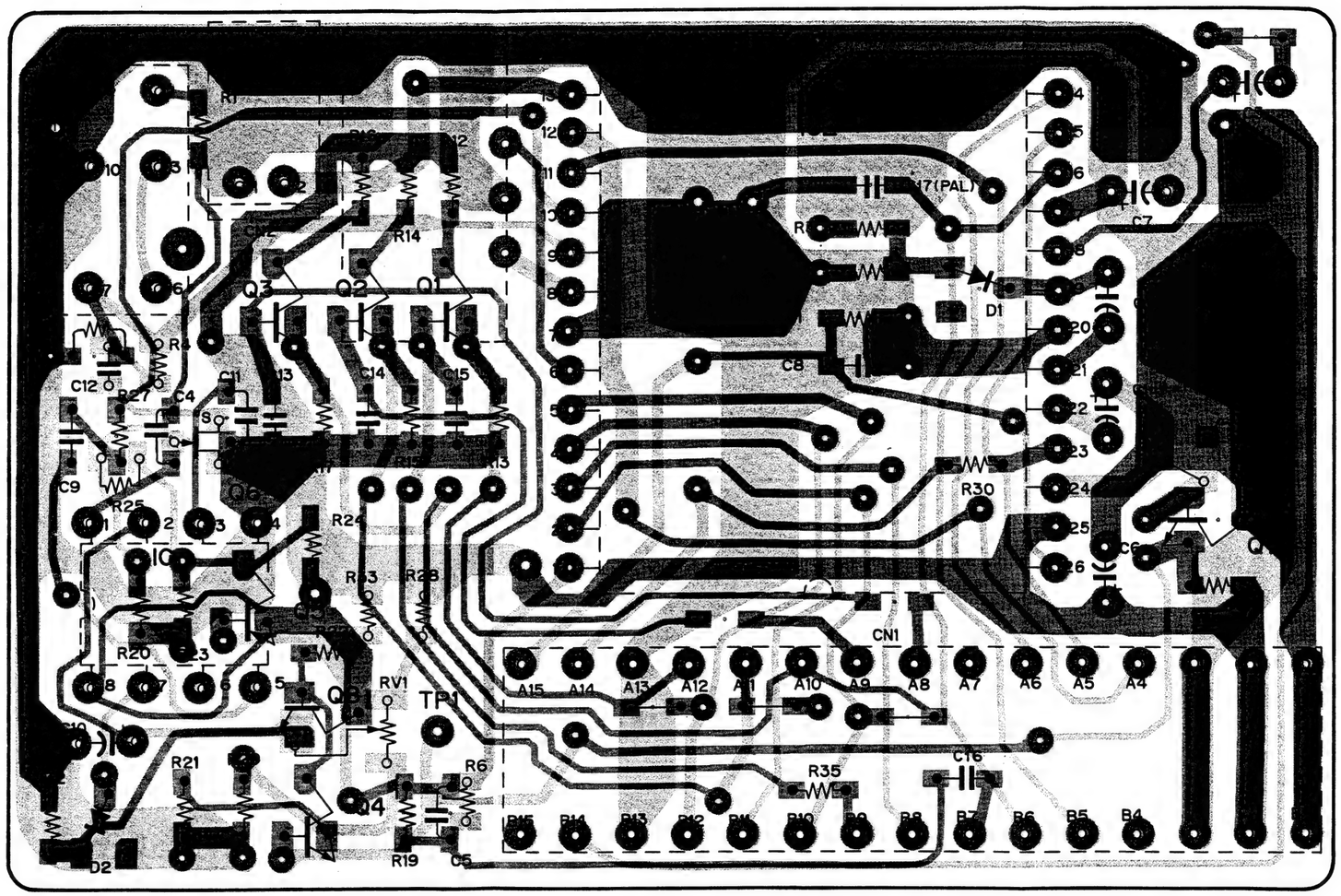
EN-40 BOARD

1-617-215-11

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P (EK)
DXC-102 (UC,J)
DXC-102P (EK)

EN-40 BOARD

SERIAL NO.	
DXC-101 (J)	50181 to 51290
DXC-101 (UC)	10221 to 11180
DXC-101P (EK)	10061 to 12080
DXC-102 (J)	10021 to 10470
DXC-102 (UC)	10031 to 10660
DXC-102P (EK)	10011 to 11070



—SOLDERING SIDE—

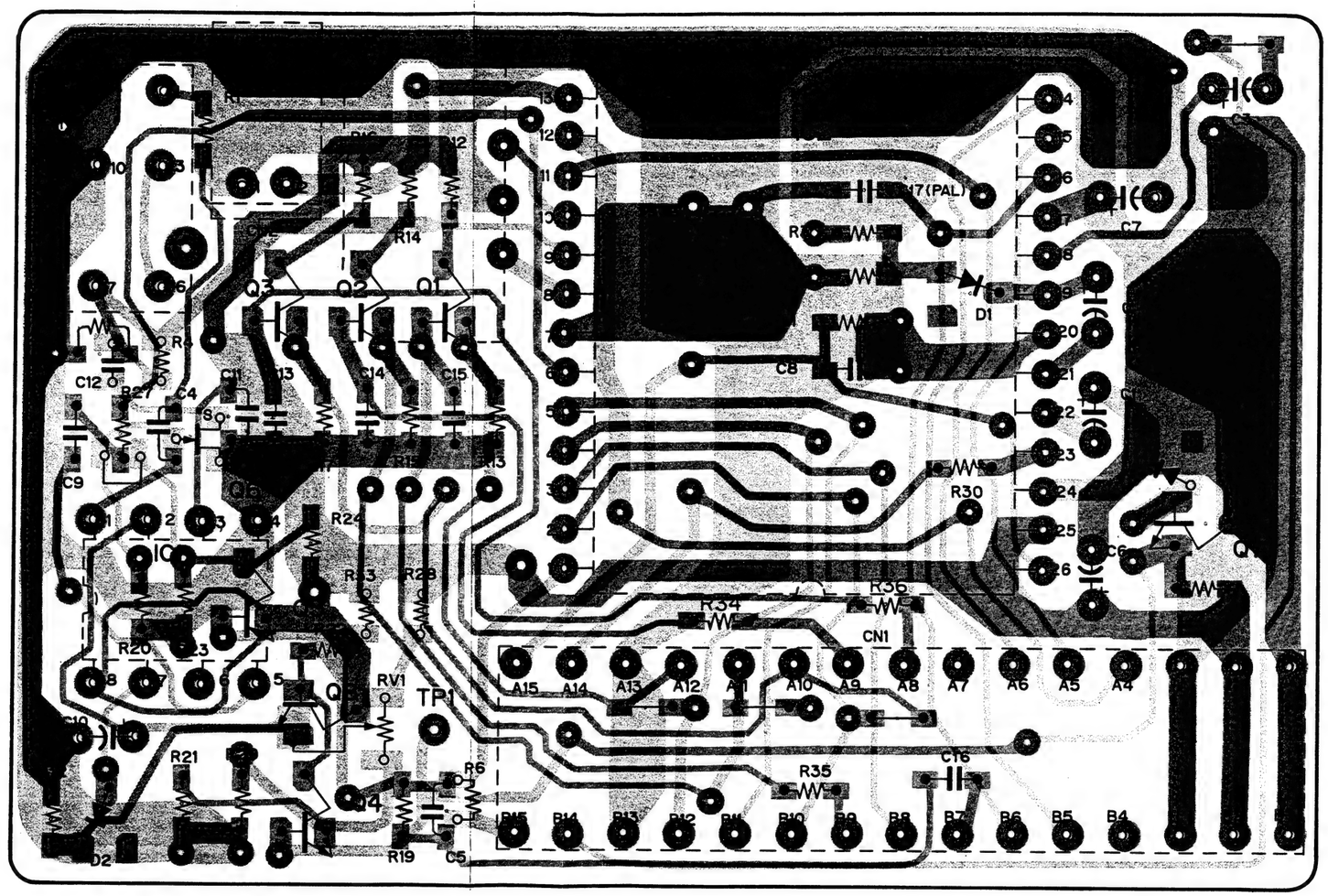
EN-40 BOARD

1-617-215-13

XC—117 (UCJ)
XC—117P (EK)
DXC—101 (UC,J)
DXC—101P (EK)
DXC—102 (UC,J)
DXC—102P (EK)

EN-40 BOARD

SERIAL NO.	
DXC-101 (J)	51291 and higher
DXC-101 (UC)	11181 and higher
DXC-101P (EK)	12081 and higher
DXC-102 (J)	10471 and higher
DXC-102 (UC)	10661 and higher
DXC-102P (EK)	11071 and higher



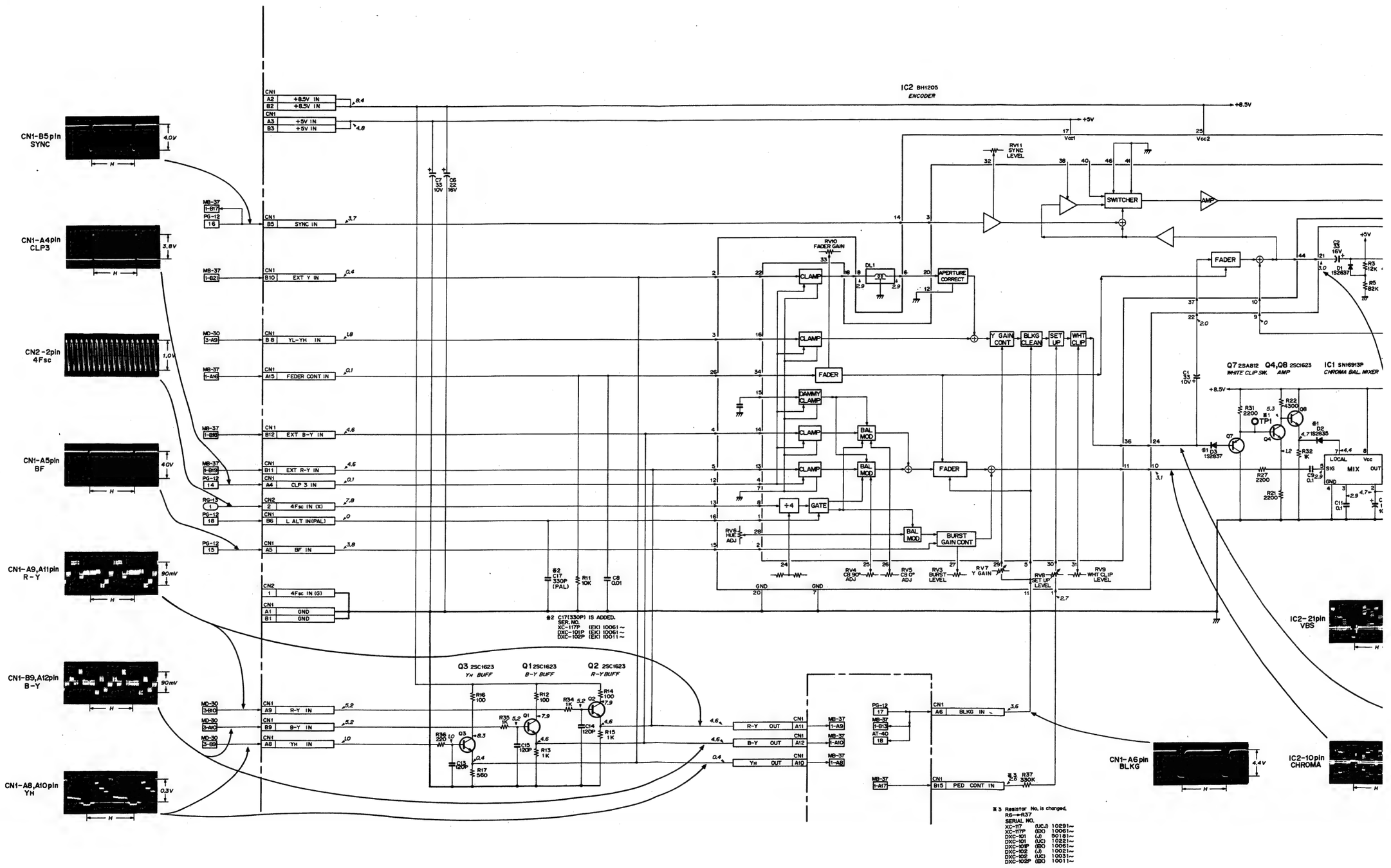
– SOLDERING SIDE –

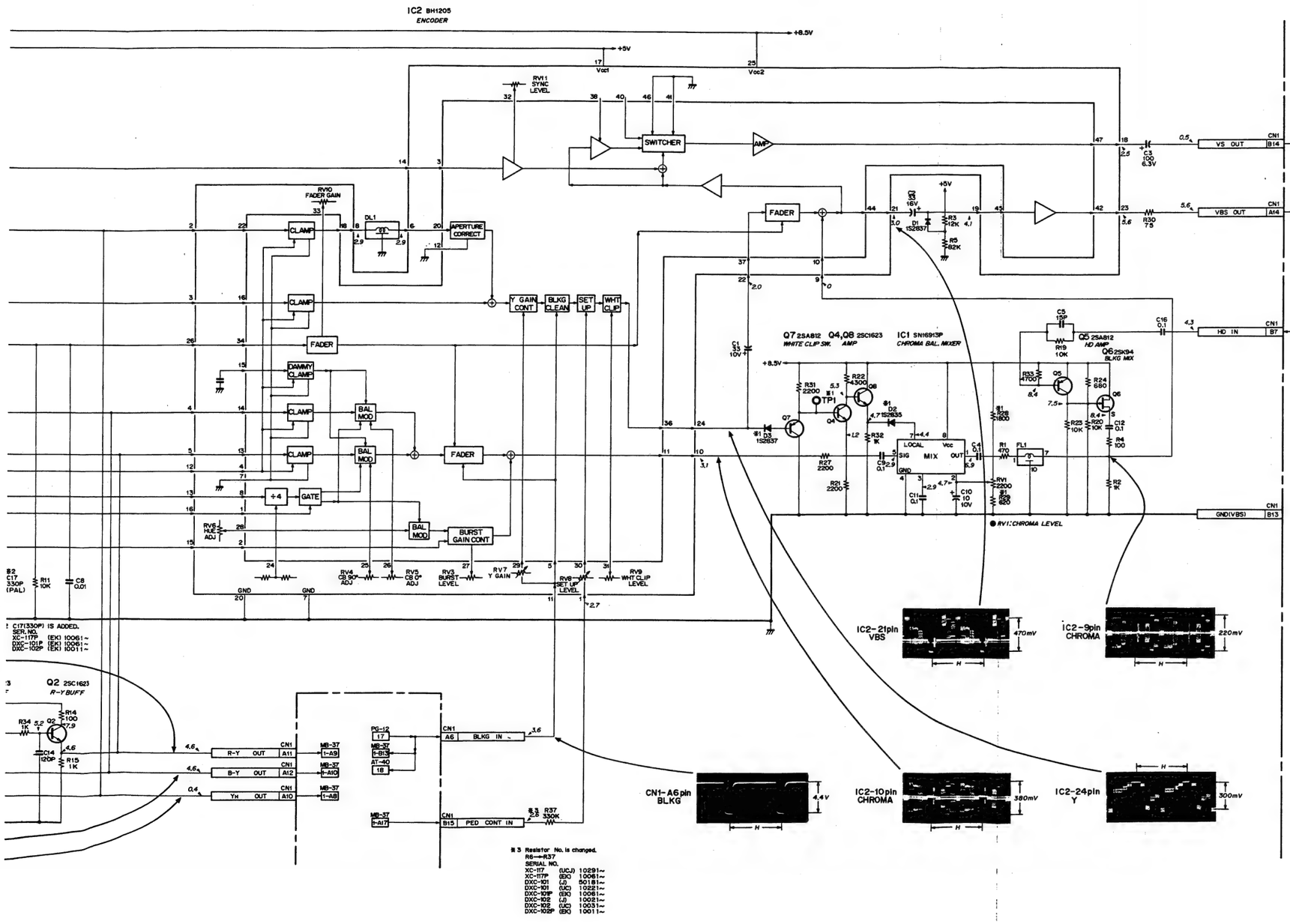
EN-40 BOARD

1-617-215-14

XC-117 (UC,J)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P (EK)
DXC-102 (UC,J)
DXC-102P (EK)

EN-40 BOARD (ENCODER)





注意：

1．DC電圧はデジタル電圧計による値。

2．波形写真は下記条件で撮影。

- MB-37基板，TP1にてカラーバーのf1部分が150mVp-pになる様レンズアイリスをセットする。
  (F≒4，波形モニターで100IRE)
- WHITE BALスイッチ→"1(3200°K)"位置
- GAINスイッチ→"0dB"位置

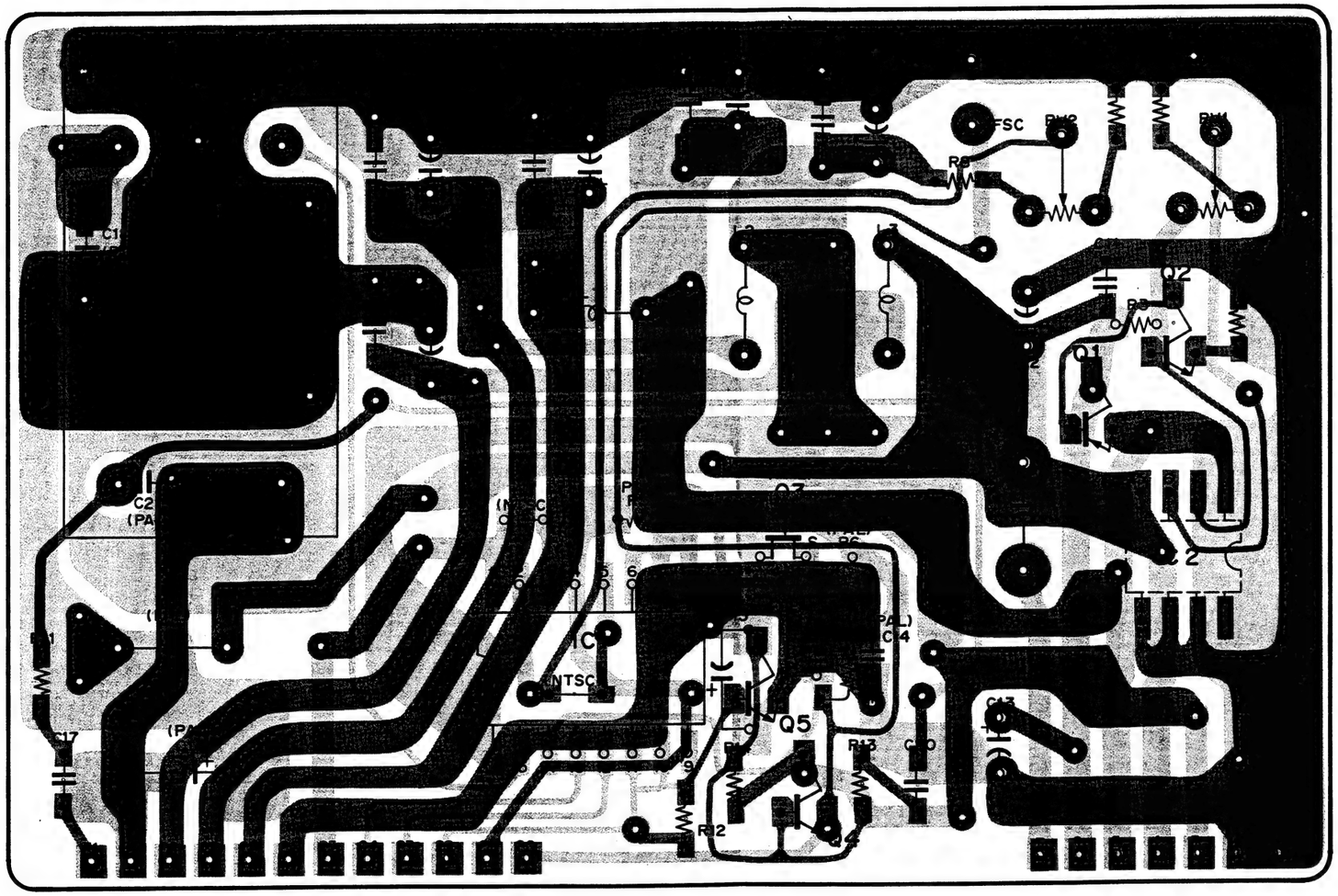
NOTE:

1. All voltage are dc, measured with a digital voltmeter (input resistance 10 MΩ).
2. All waveforms are taken in conditions below.
   - Shoot the color bar pattern on the pattern box. Adjust lens iris so that a white level at TP1/MB-37 board is 150 mV. [F≒4, White level on the waveform monitor is 100 IRE (700 mV for PAL)]
   - Set camera WHITE BAL switch to ''1 (3200° K)''.
   - Set camera GAIN switch to ''0 dB''.

EN-40 BOARD
1-617-219-11,13,14

RG-13 BOARD

SERIAL NO.	
DXC-101 (J)	Up to 50430
DXC-101 (UC)	Up to 10220
DXC-101P (EK)	Up to 10260
DXC-102 (J)	Up to 10190
DXC-102 (UC)	Up to 10180
DXC-102P (EK)	Up to 10310



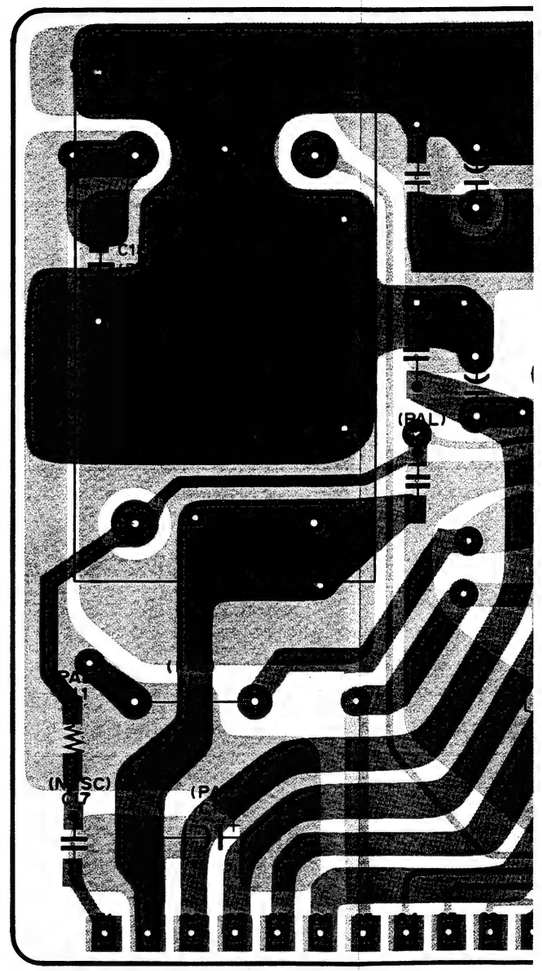
-SOLDERING SIDE-

RG-13 BOARD

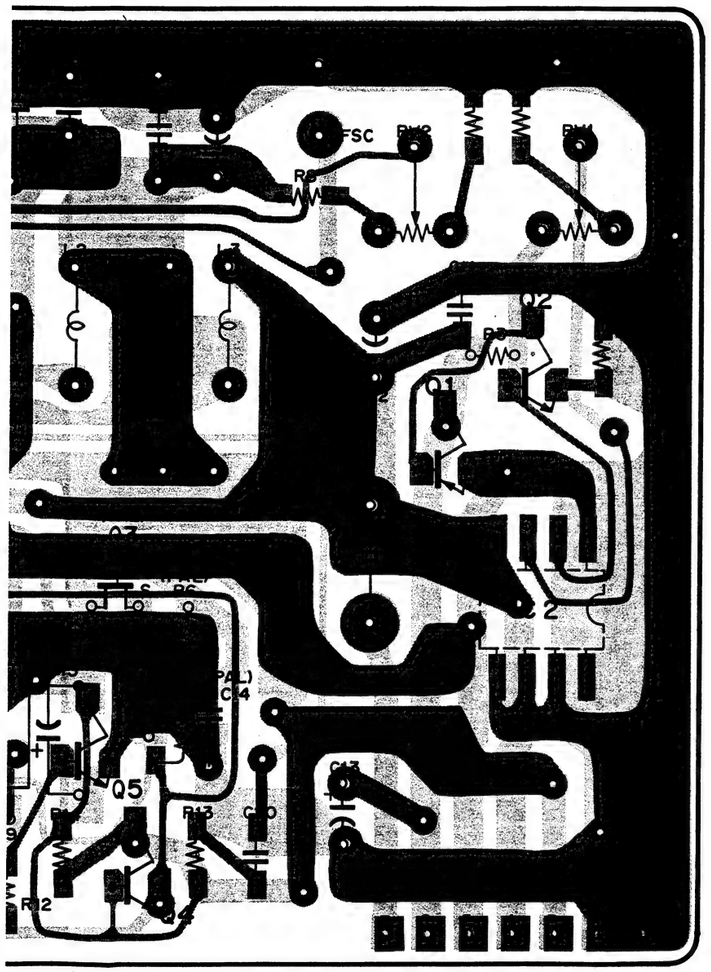
1-617-211-11

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P (EK)
DXC-102 (UC,J)
DXC-102P (EK)

SERIAL NO.	
DXC-101 (J)	50431 and higher
DXC-101 (UC)	10221 and higher
DXC-101P (EK)	10261 and higher
DXC-102 (J)	10191 and higher
DXC-102 (UC)	10181 and higher
DXC-102P (EK)	10311 and higher



SERIAL NO.	
DXC-101 (J)	50431 and higher
DXC-101 (UC)	10221 and higher
DXC-101P (EK)	10261 and higher
DXC-102 (J)	10191 and higher
DXC-102 (UC)	10181 and higher
DXC-102P (EK)	10311 and higher

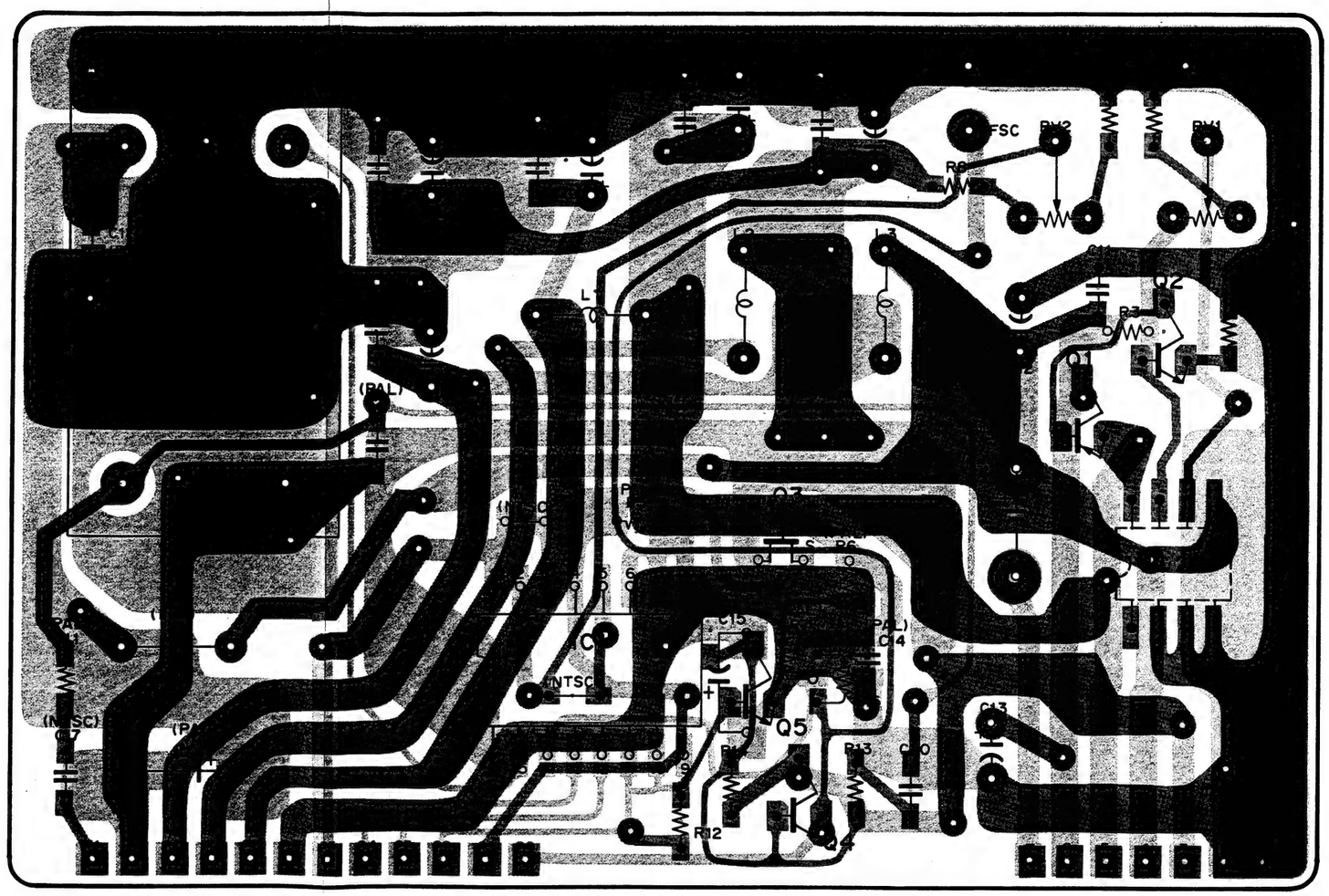


-SOLDERING SIDE-

RG-13 BOARD

1-617-211-11

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P(EK)
DXC-102 (UC,J)
DXC-102P(EK)



-SOLDERING SIDE-

RG-13 BOARD

1-617-211-12

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P(EK)
DXC-102 (UC,J)
DXC-102P(EK)

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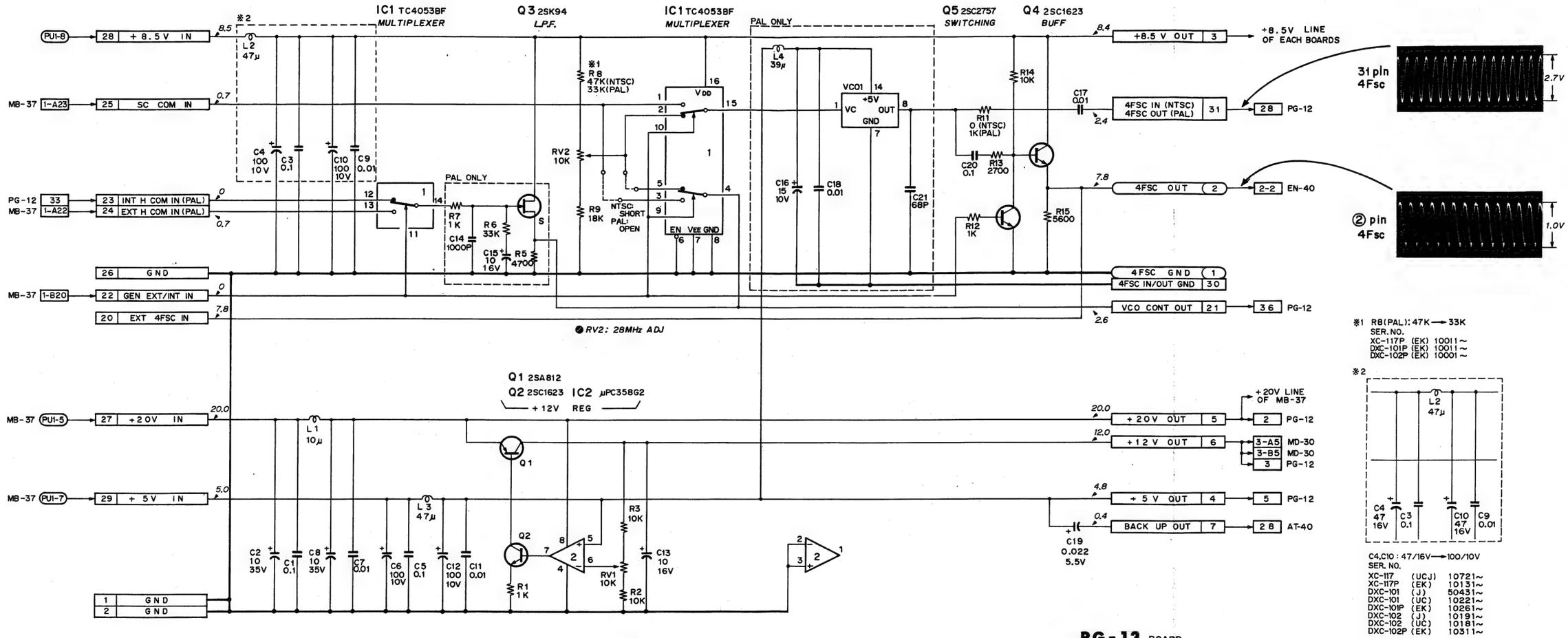
RG-13 BOARD



RG-13 BOARD
1-617-211-11,12

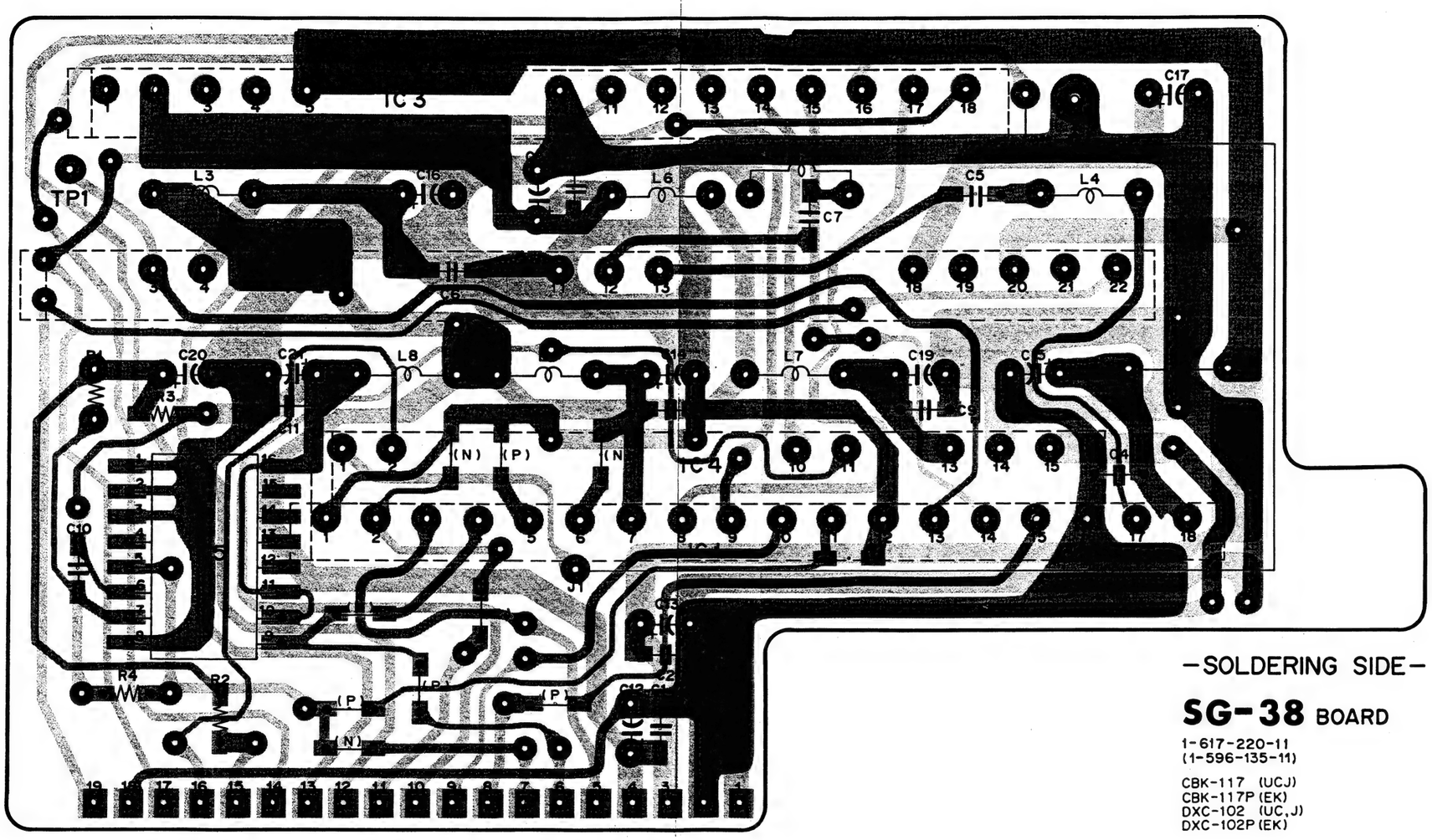
XC-117	(UCJ)	10001～
XC-117P	(EK)	10001～
DXC-101	(UC)	10001～
DXC-101	(J)	50001～
DXC-101P	(EK)	10001～
DXC-102	(UC)	10001～
DXC-102	(J)	10001～
DXC-102P	(EK)	10001～

注意：
DC電圧はデジタル電圧計にて測定。

NOTE:
All voltage are mesured with a digital voltmeter (input resistance 10 MΩ).

SG-38 BOARD

SERIAL NO.	
DXC-102 (J)	Up to 11190
DXC-102 (UC)	Up to 10180
DXC-102P (EK)	Up to 10310



—SOLDERING SIDE—

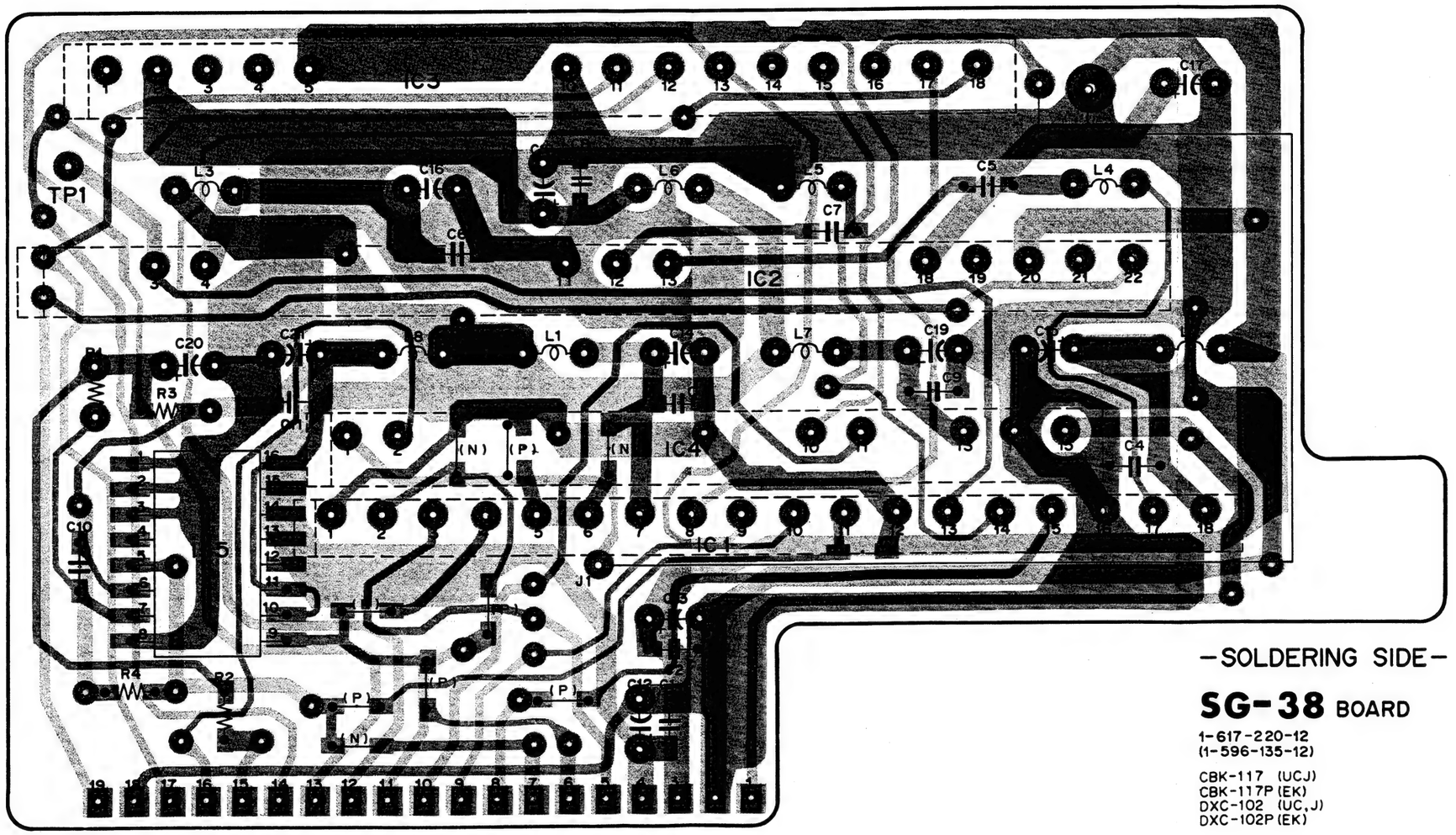
SG-38 BOARD

1-617-220-11
(1-596-135-11)

CBK-117 (UCJ)
CBK-117P (EK)
DXC-102 (UC,J)
DXC-102P (EK)

SG-38 BOARD

SERIAL NO.	
DXC-102 (J)	10191 to 10470
DXC-102 (UC)	10181 to 10660
DXC-102P (EK)	10311 to 11070



—SOLDERING SIDE—

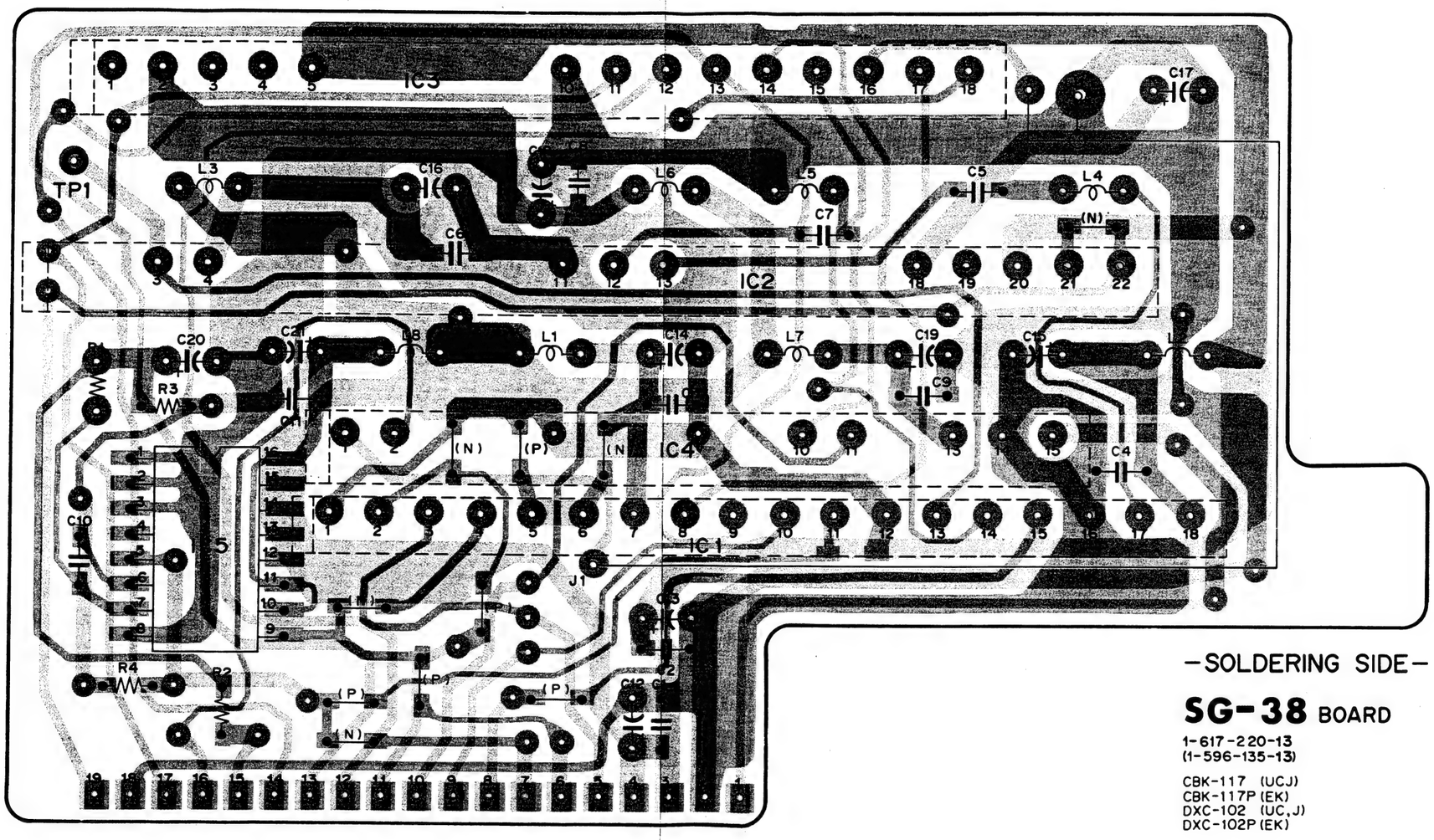
SG-38 BOARD

1-617-220-12
(1-596-135-12)

CBK-117 (UCJ)
CBK-117P (EK)
DXC-102 (UC,J)
DXC-102P (EK)

SG-38 BOARD

SERIAL NO.	
DXC-102 (J)	10471 and higher
DXC-102 (UC)	10661 and higher
DXC-102P (EK)	11071 and higher



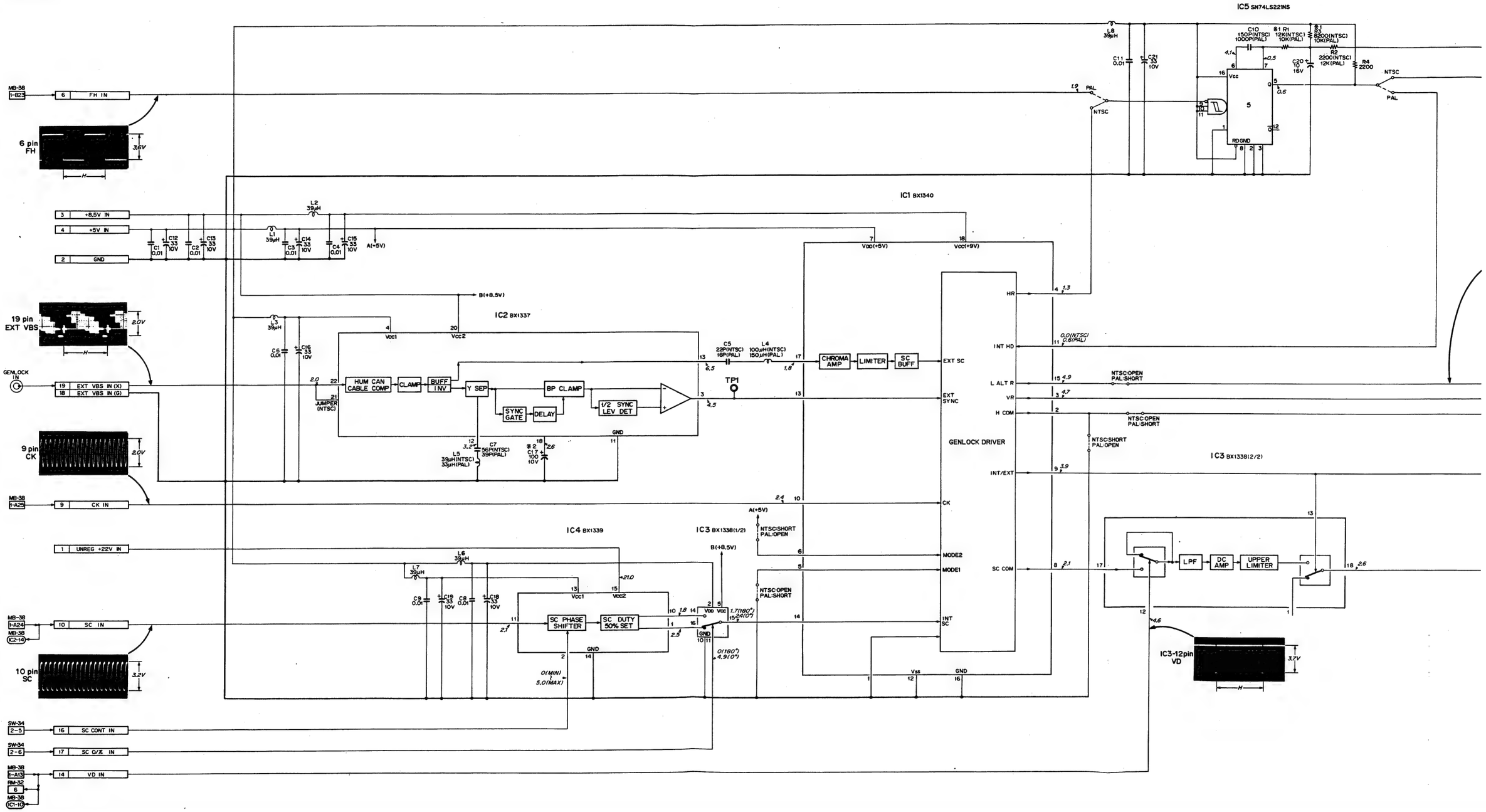
—SOLDERING SIDE—

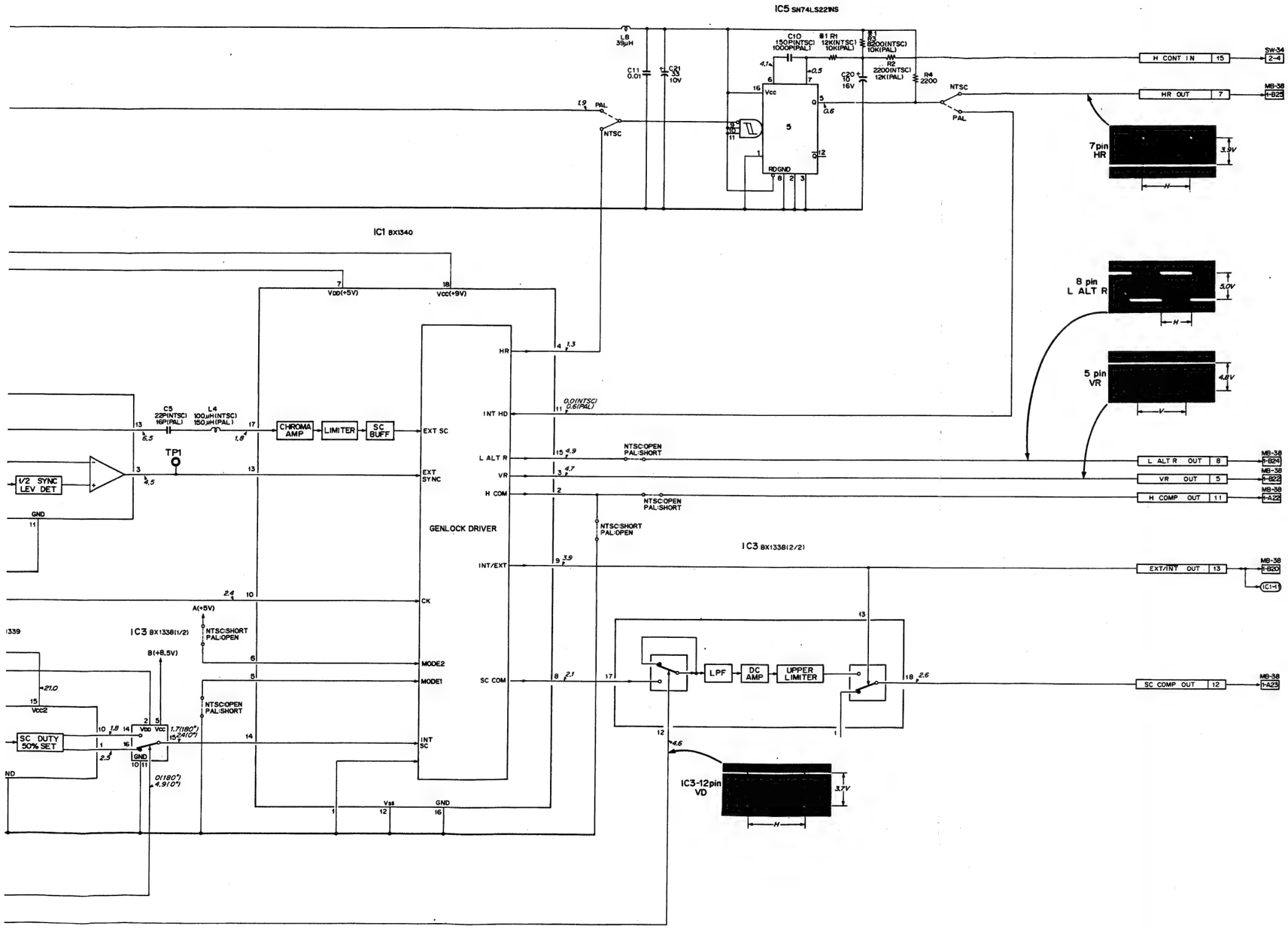
SG-38 BOARD

1-617-220-13
(1-596-135-13)

CBK-117 (UCJ)
CBK-117P (EK)
DXC-102 (UC,J)
DXC-102P (EK)

SG-38 BOARD


IC5 SN74LS221NS
IC1 BX1340
IC2 BX1337
IC4 BX1339
IC3 BX1338(1/2)
IC3 BX1338(2/2)
MB-38 1-B23
6 FH IN
6 pin FH
3.6V
3 +8.5V IN
4 +5V IN
2 GND
L2 39µH
L1 39µH
L3 39µH
L6 39µH
L7 39µH
L8 39µH
C1 0.01
C2 0.01
C3 0.01
C4 0.01
C5 22P(NTSC) 16P(PAL)
L4 100µH(NTSC) 150µH(PAL)
C6 0.01
C7 56P(NTSC) 39P(PAL)
L5 39µH(NTSC) 33µH(PAL)
C8 0.01
C9 0.01
C10 150P(NTSC) 1000P(PAL)
C11 0.01
C20 10 16V
R1 12K(NTSC) 10K(PAL)
R2 2200(NTSC) 12K(PAL)
R4 2200
NTSC
PAL
A(+5V)
B(+8.5V)
7 VDD(+5V)
18 Vcc(+9V)
4 Vcc1
20 Vcc2
13 Vcc1
15 Vcc2
GND
Vss
19 pin EXT VBS
2.0V
GENLOCK IN
19 EXT VBS IN (X)
18 EXT VBS IN (G)
22 HUM CAN CABLE COMP
CLAMP
BUFF 1 INV
Y SEP
BP CLAMP
SYNC GATE
DELAY
1/2 SYNC LEV DET
21 JUMPER (NTSC)
TP1
CHROMA AMP
LIMITER
SC BUFF
EXT SC
EXT SYNC
9 pin CK
MB-38 1-A25
9 CK IN
1 UNREG +22V IN
MB-38 1-A24
10 SC IN
MB-38 IC2-14
10 pin SC
3.2V
SW-34 2-5
16 SC CONT IN
SW-34 2-6
17 SC D/L IN
MB-38 1-A13
14 VD IN
RM-32 6
MB-38 IC1-10
SC PHASE SHIFTER
SC DUTY 50% SET
GENLOCK DRIVER
HR
INT HD
L ALT R
VR
H COM
INT/EXT
SC COM
CK
MODE2
MODE1
INT SC
NTSC:OPEN PAL:SHORT
NTSC:SHORT PAL:OPEN
LPF
DC AMP
UPPER LIMITER
IC3-12pin VD
3.7V
H



SG-38 BOARD
1-617-220-11,12,13

CBK-117 (UC,J)	10001～
CBK-117P (E,K)	10001～
DXC-102 (J)	10001～
DXC-102 (UC)	10001～
DXC-102P (E,K)	10001～

注意：

1．DC電圧はデジタル電圧計による値。

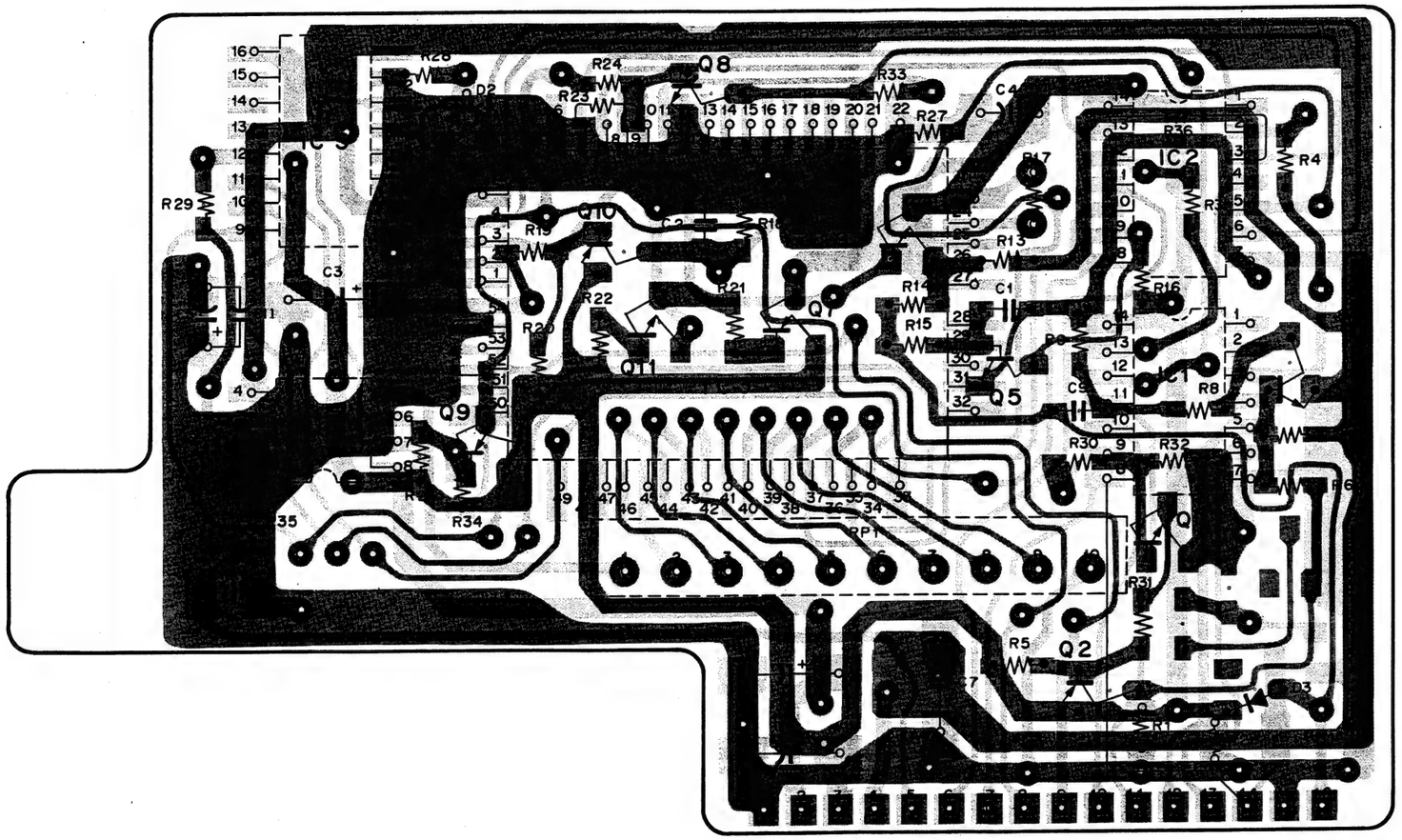
2．波形写真はGENLOCK IN端子よりカラーバー信号を入力する。

NOTE:

1. All voltage are dc, measured with a digital voltmeter (input resistance 10 MΩ).
2. All waveforms are taken in condition below.
   - Supply a color bar signal to the GENLOCK terminal.

RM-32 BOARD

SERIAL NO.	
DXC-102 (J)	Up to 10190
DXC-102 (UC)	Up to 10180
DXC-102P (EK)	Up to 10310



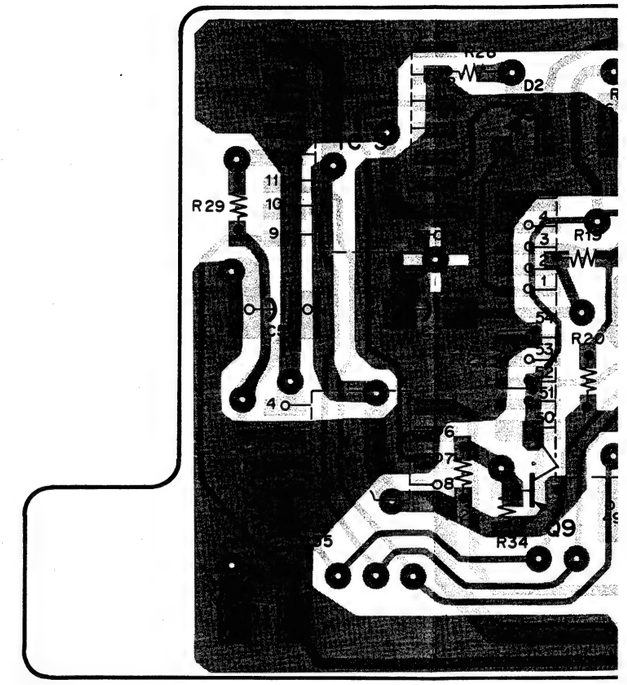
—SOLDERING SIDE—

RM-32 BOARD

1-617-219-11

CBK-117 (UCJ)
CBK-117P (EK)
DXC-102 (UC,J)
DXC-102P (EK)

SERIAL NO.	
DXC-102 (J)	10191 and higher
DXC-102 (UC)	10181 and higher
DXC-102P (EK)	10311 and higher



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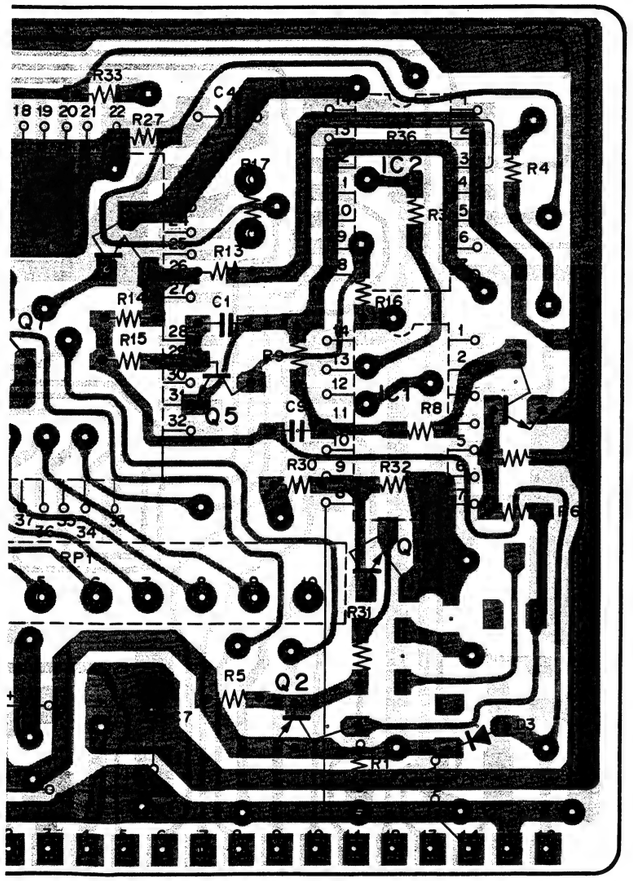
SERIAL NO.	
DXC-102 (J)	10191 and higher
DXC-102 (UC)	10181 and higher
DXC-102P (EK)	10311 and higher

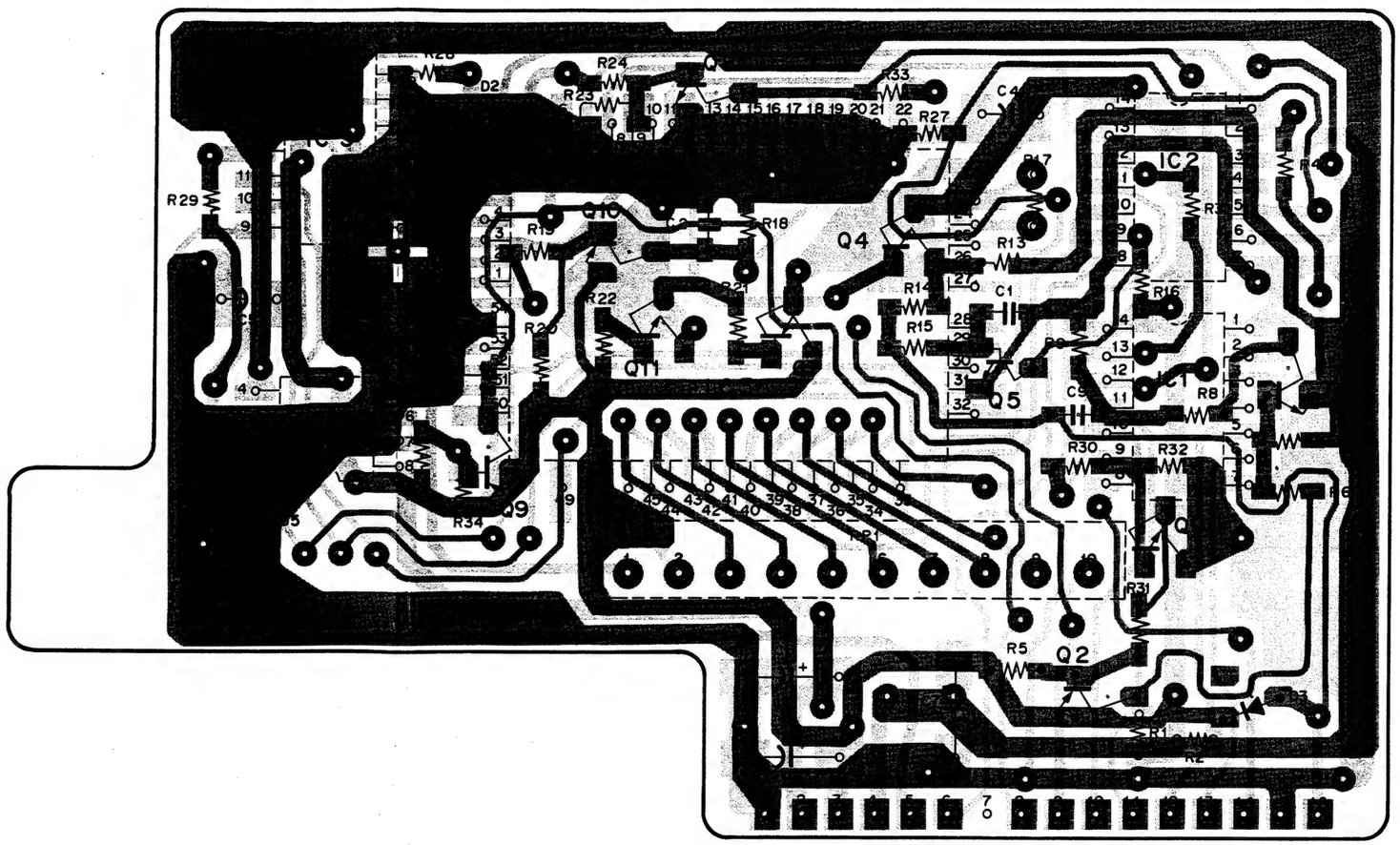


—SOLDERING SIDE—

RM-32 BOARD

1-617-219-11

CBK-117 (UCJ)
CBK-117P (EK)
DXC-102 (UC,J)
DXC-102P (EK)



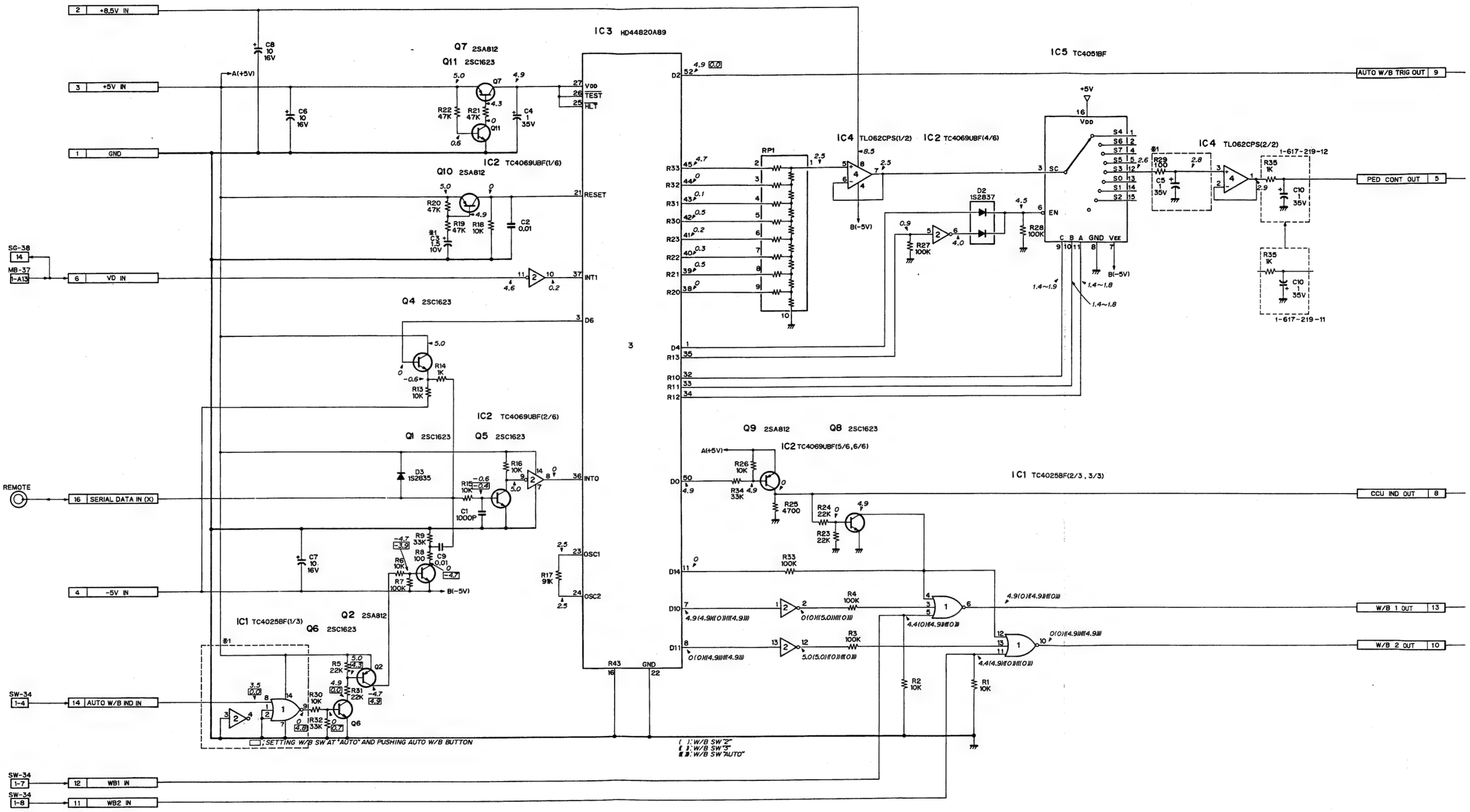
—SOLDERING SIDE—

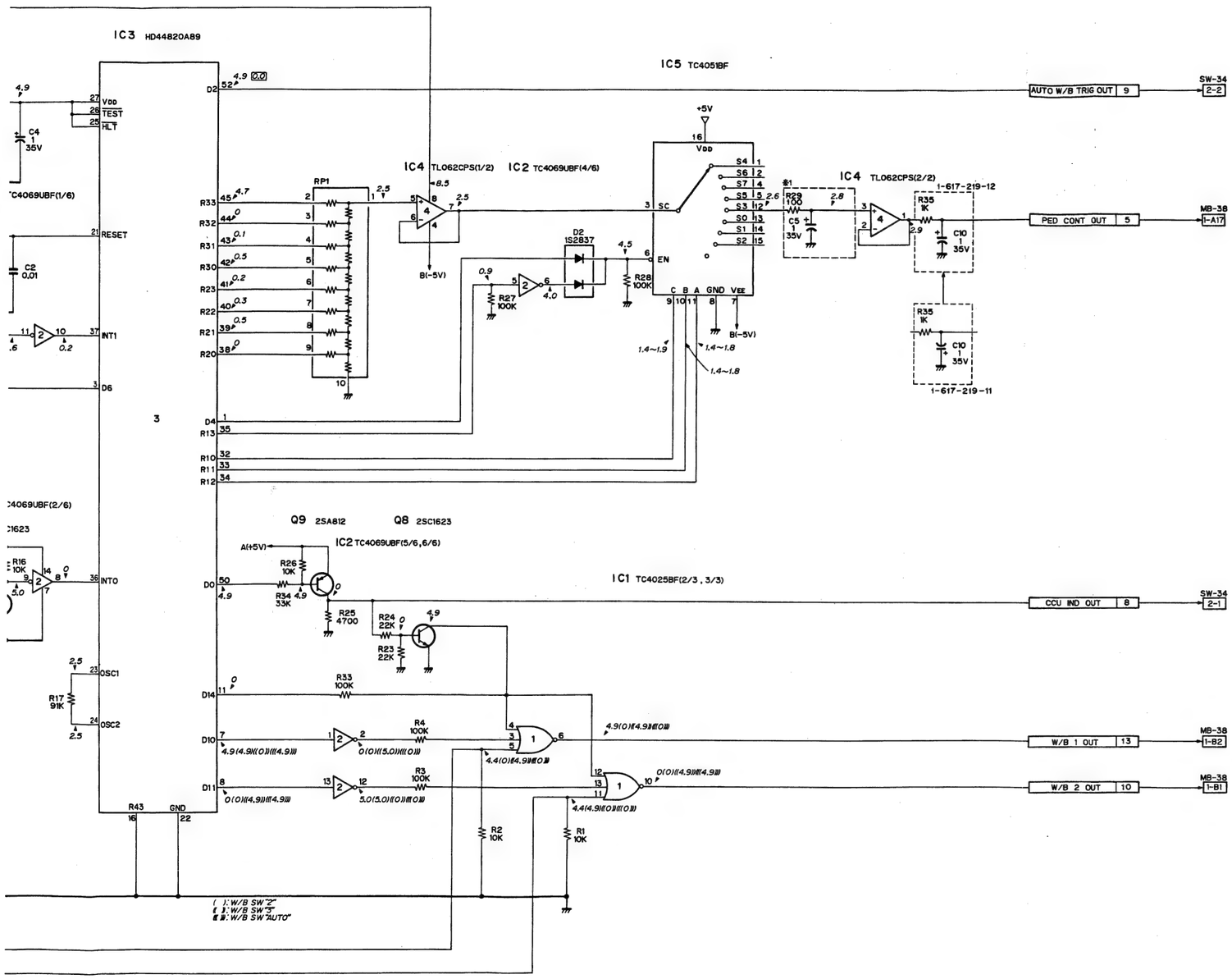
RM-32 BOARD

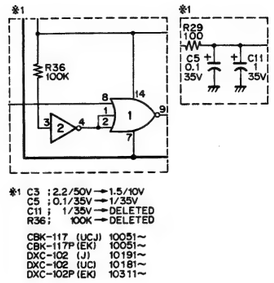
1-617-219-12

CBK-117 (UCJ)
CBK-117P (EK)
DXC-102 (UC,J)
DXC-102P (EK)

RM-32 BOARD


2 +8.5V IN
3 +5V IN
1 GND
6 VD IN
4 -5V IN
16 SERIAL DATA IN (X)
14 AUTO W/B IND IN
12 WB1 IN
11 WB2 IN
SG-38 14
MB-37 1-A13
SW-34 1-4
SW-34 1-7
SW-34 1-8
REMOTE
A(+5V)
B(-5V)
IC3 HD44820A89
IC2 TC4069UBF(1/6)
IC2 TC4069UBF(2/6)
IC1 TC4025BF(1/3)
IC4 TL062CPS(1/2)
IC2 TC4069UBF(4/6)
IC4 TL062CPS(2/2)
IC5 TC4051BF
IC2 TC4069UBF(5/6,6/6)
IC1 TC4025BF(2/3, 3/3)
Q7 2SA812
Q11 2SC1623
Q10 2SA812
Q4 2SC1623
Q1 2SC1623
Q5 2SC1623
Q2 2SA812
Q6 2SC1623
Q9 2SA812
Q8 2SC1623
D2 1S2837
D3 1S2835
RP1
C8 10 16V
C6 10 16V
C7 10 16V
C4 1 35V
C5 1 35V
C10 1 35V
C1 1000P
C2 0.01
R35 1K
R28 100K
R27 100K
R26 10K
R34 33K
R25 4700
R24 22K
R23 22K
R33 100K
R4 100K
R3 100K
R2 10K
R1 10K
AUTO W/B TRIG OUT 9
PED CONT OUT 5
CCU IND OUT 8
W/B 1 OUT 13
W/B 2 OUT 10
1-617-219-12
1-617-219-11
VDD
TEST
HLT
RESET
INT1
INT0
OSC1
OSC2
GND
SC
EN
C B A GND VEE
S4 S6 S7 S5 S3 S0 S1 S2
4.9(0)I(4.9)II(0)I
0(0)I(5.0)II(0)I
4.4(0)I(4.9)II(0)I
5.0(5.0)I(0)II(0)I
4.4(4.9)I(0)II(0)I
1.4~1.8
1.4~1.9
( ): W/B SW "2"
[ ]: W/B SW "3"
{ }: W/B SW "AUTO"
; SETTING W/B SW AT "AUTO" AND PUSHING AUTO W/B BUTTON





※1 C3 : 2.2/50V → 1.5/10V
C5 : 0.1/35V → 1/35V
C11 : 1/35V → DELETED
R36 : 100K → DELETED

CBK-117 (UCJ) 10051~
CBK-117P (EK) 10051~
DXC-102 (J) 10191~
DXC-102 (UC) 10181~
DXC-102P (EK) 10311~

RM-32 BOARD
1-617-219-11,12

CBK-117(UCJ) 10001~
CBK-117P(EK) 10001~
DXC-102(J) 10001~
DXC-102(UC) 10001~
DXC-102P(EK) 10001~

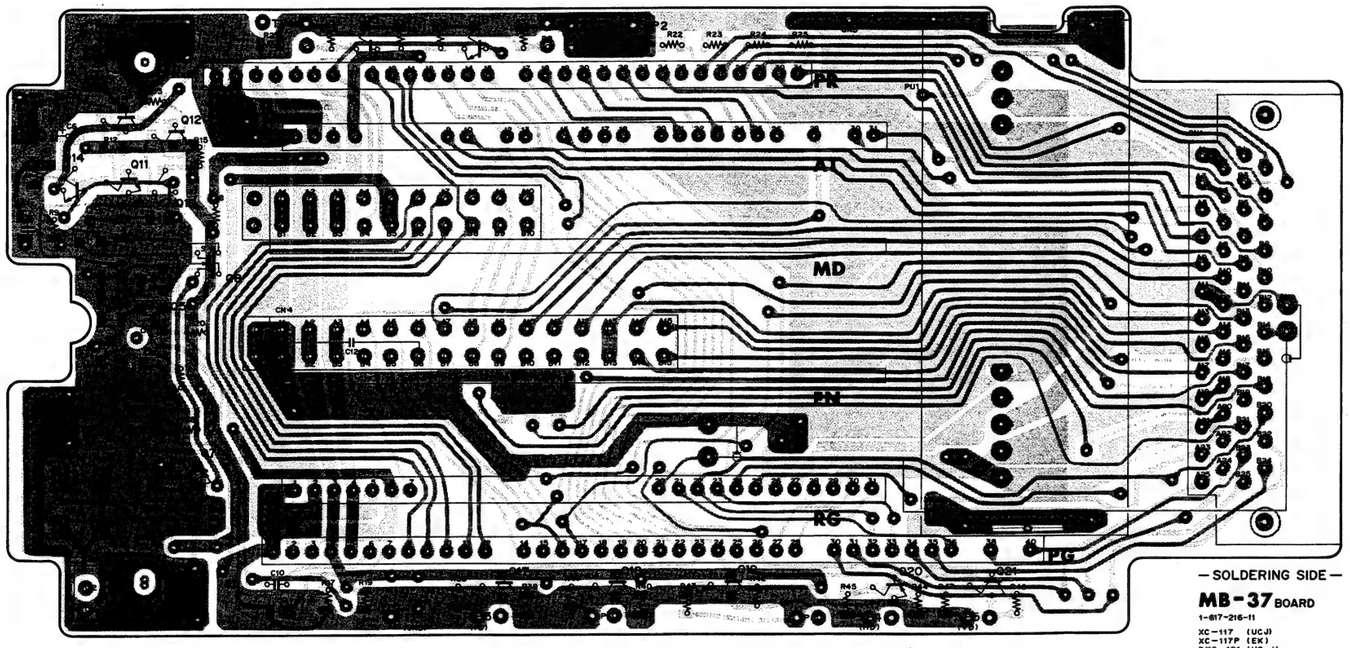
注意：
DC電圧は下記条件による値。
●デジタル電圧計で測定。
●REMOTE端子にカメラアダプターCMA-10を接続。
CMA-10セッティング;
PEDESTAL:メカニカルセンター
WHITE BAL:" 1 "位置

NOTE:
All voltage are taken in condition below.
- Digital voltmeter.
- Connect REMOTE terminal to camera adaptor CMA-10/10CE.

CMA-10/10CE setting;
PEDESTAL: mechanicalcenter
WHITE BAL: ''1'' position.

MB-37 BOARD
BI-3 BOARD
CN-39 BOARD
SW-33 BOARD
DC-28 BOARD
LE-47 BOARD

SERIAL NO.	
DXC-101 (J)	Up to 50430
DXC-101 (UC)	Up to 10220
DXC-101P (EK)	Up to 10260



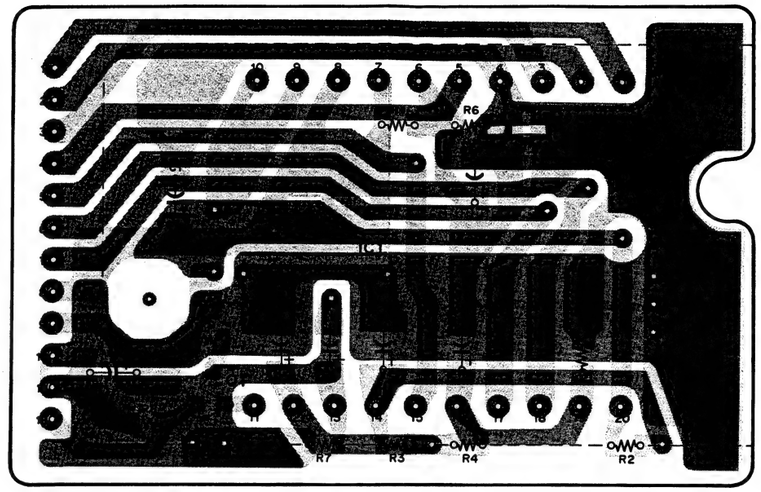
— SOLDERING SIDE —

MB-37 BOARD
1-617-216-11

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P(EK)
DXC-102 (UCJ)
DXC-102P(EK)

SERIAL NO.	
DXC-101 (J)	Up to 50180
DXC-101 (UC)	Up to 10220
DXC-101P (EK)	Up to 10060

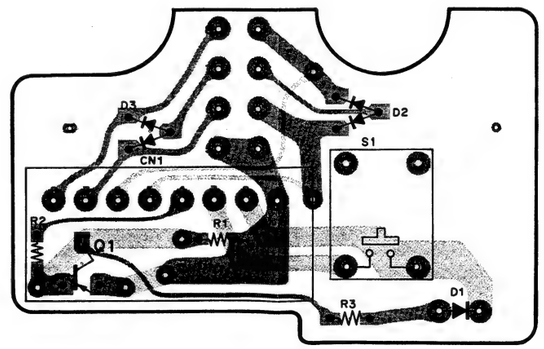
SERIAL NO.
DXC-101(J)
DXC-101(UC)
DXC-101P(EK)



— SOLDERING SIDE —

BI-3 BOARD
1-617-209-11

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P(EK)

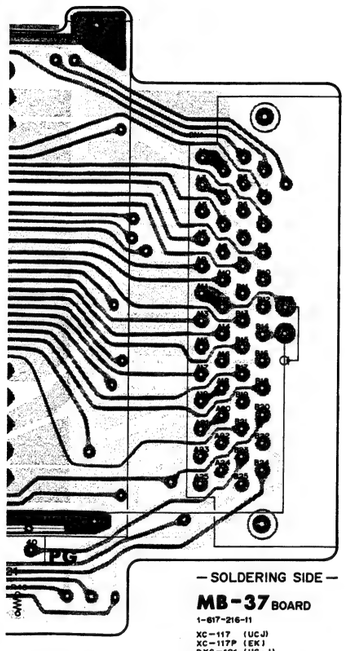


— SOLDERING SIDE —

SW-33 BOARD
1-617-218-11

DXC-101 (UC,J)
DXC-101P (EK)

SERIAL NO.
DXC-101 (J) Up to 50180
DXC-101 (UC) Up to 10220
DXC-101P (EK) Up to 10060

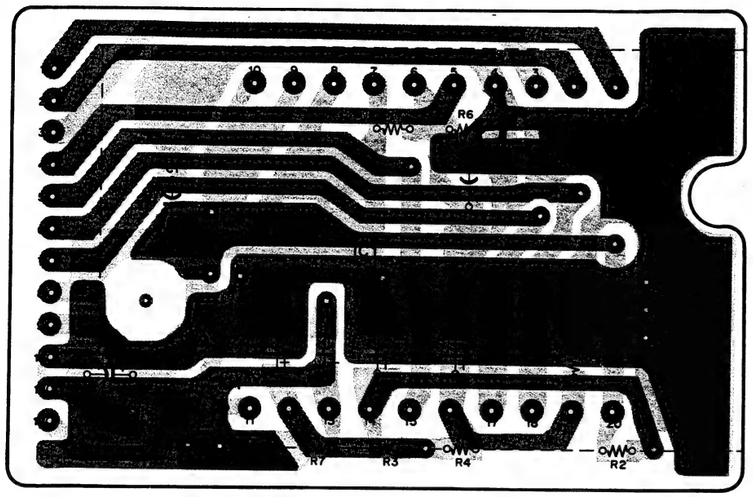


—SOLDERING SIDE—

MB-37 BOARD

1-617-216-11

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P(EK)
DXC-102 (UCJ)
DXC-102P(EK)

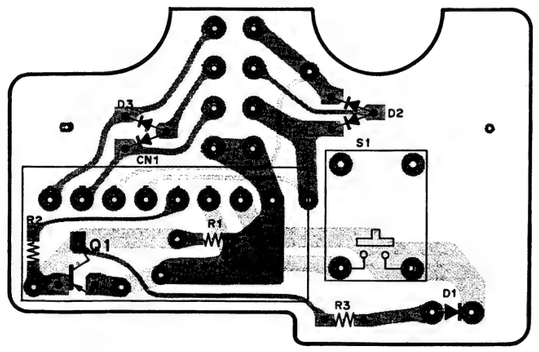


—SOLDERING SIDE—

BI-3 BOARD

1-617-209-11

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P(EK)



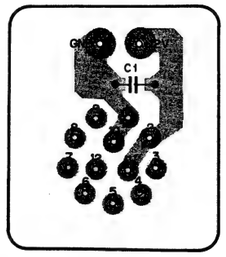
—SOLDERING SIDE—

SW-33 BOARD

1-617-218-11

DXC-101 (UC,J)
DXC-101P (EK)

SERIAL NO.
DXC-101(J) Up to 50330
DXC-101(UC) Up to 10220
DXC-101P(EK) Up to 10060

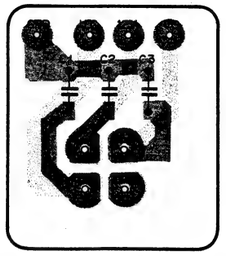


—SOLDERING SIDE—

DC-28 BOARD

1-617-768-11

DXC-101 (UC,J)
DXC-101P(EK)

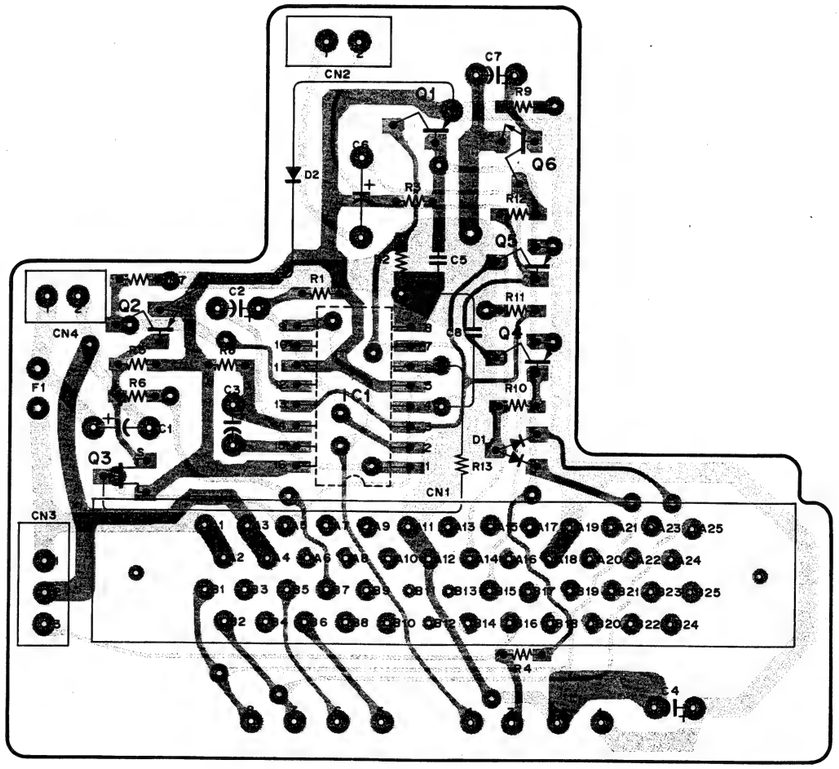


—SOLDERING SIDE—

LE-47 BOARD

1-617-767-11

DXC-101 (UC,J)
DXC-101P (EK)
DXC-102 (UC,J)
DXC-102P (EK)



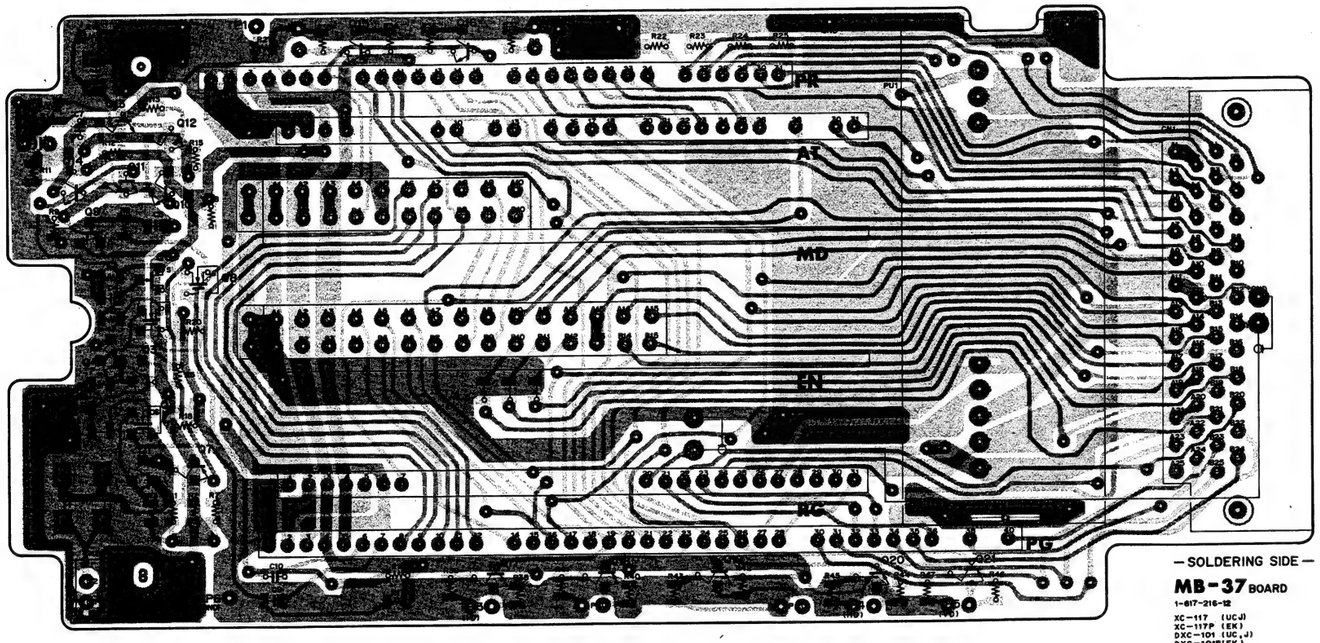
—SOLDERING SIDE—

CN-39 BOARD

DXC-101 (UC,J)
DXC-101P (EK)

MB-37 BOARD
BI-3 BOARD
CN-39 BOARD
SW-33 BOARD
DC-28 BOARD
LE-47A BOARD

SERIAL NO.	
DXC-101 (J)	50431 to 50610
DXC-101 (UC)	10221 to 10630
DXC-101P (EK)	10261 to 10580



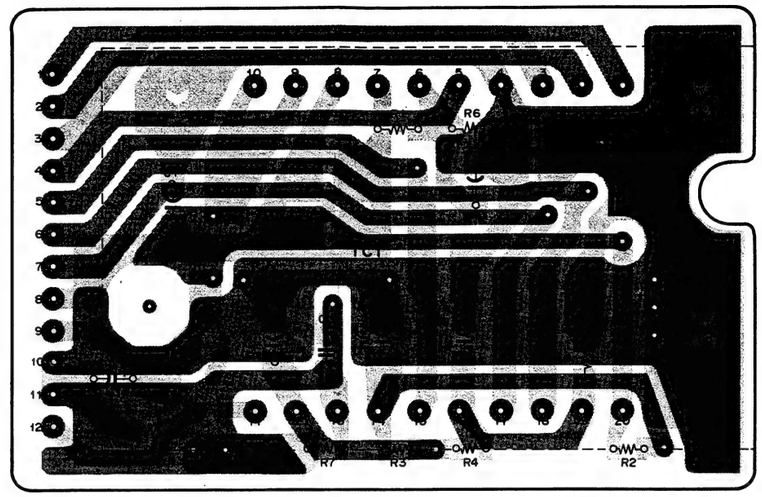
—SOLDERING SIDE—

MB-37 BOARD

1-617-216-12

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P(EK)
DXC-102 (UCJ)
DXC-102P(EK)

SERIAL NO.	
DXC-101 (J)	50181 and higher
DXC-101 (UC)	10221 and higher
DXC-101P (EK)	10061 and higher

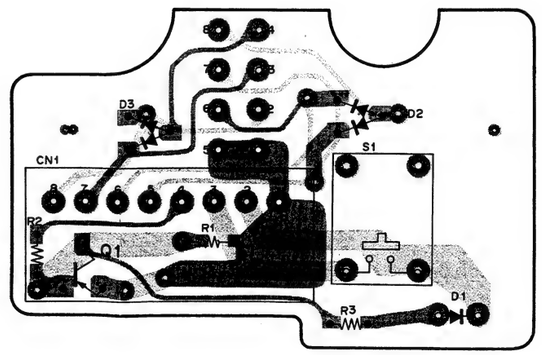


—SOLDERING SIDE—

BI-3 BOARD

1-617-209-12

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P(EK)
DXC-102 (UCJ)
DXC-102P(EK)



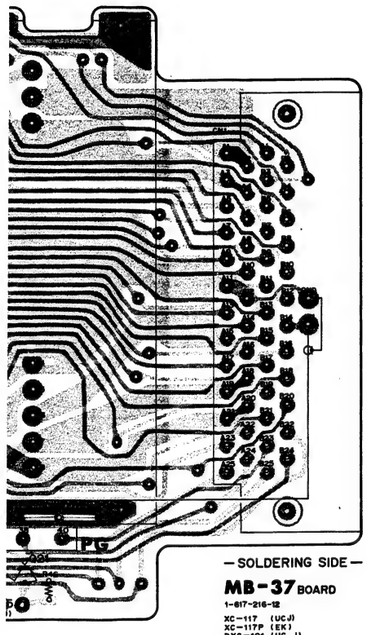
—SOLDERING SIDE—

SW-33 BOARD

1-617-218-12

DXC-101 (UC,J)
DXC-101P(EK)

SERIAL NO.	
DXC-101 (J)	50181 and higher
DXC-101 (UC)	10221 and higher
DXC-101P (EK)	10061 and higher



—SOLDERING SIDE—

MB-37 BOARD

1-617-216-12

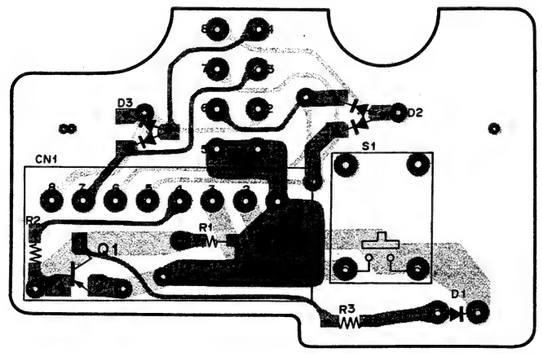
XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P(EK)
DXC-102 (UCJ)
DXC-102P(EK)

—SOLDERING SIDE—

BI-3 BOARD

1-617-209-12

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P(EK)
DXC-102 (UCJ)
DXC-102P(EK)



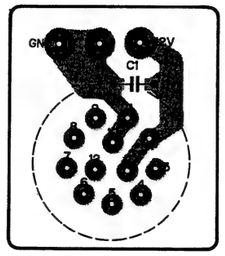
—SOLDERING SIDE—

SW-33 BOARD

1-617-218-12

DXC-101 (UC,J)
DXC-101P(EK)

SERIAL NO.	
DXC-101 (J)	50331 and higher
DXC-101 (UC)	10221 and higher
DXC-101P (EK)	10061 and higher

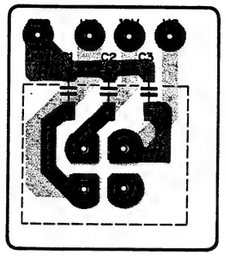


-SOLDEING SIDE-

DC-28 BOARD

1-617-768-12

DXC-101 (UC,J)
DXC-101P (EK)

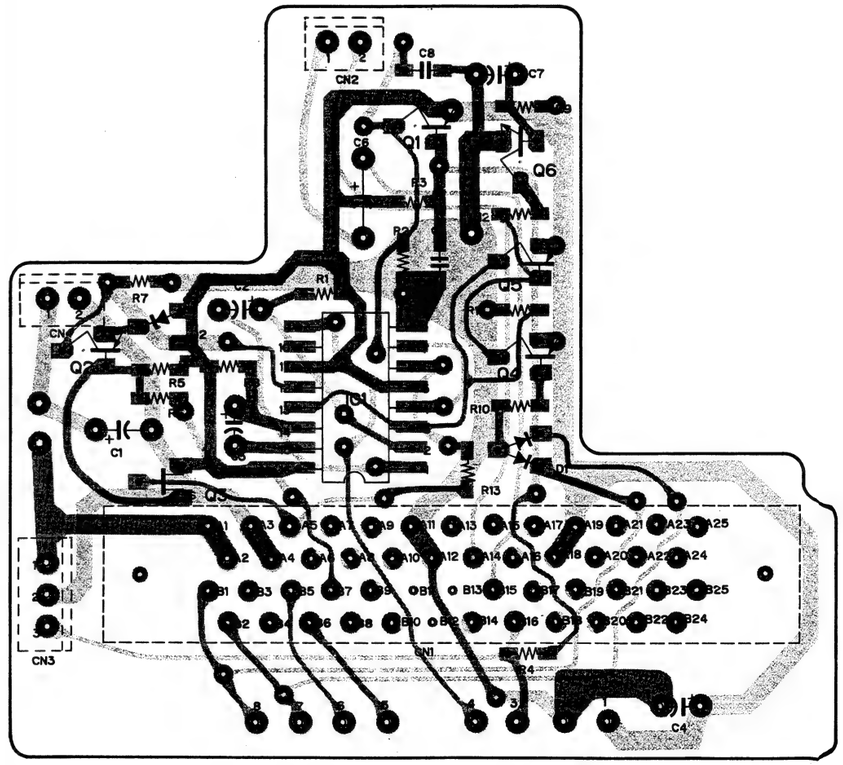


-SOLDERING SIDE-

LE-47A BOARD

1-617-768-12

DXC-101 (UC,J)
DXC-101P (EK)



—SOLDERING SIDE—

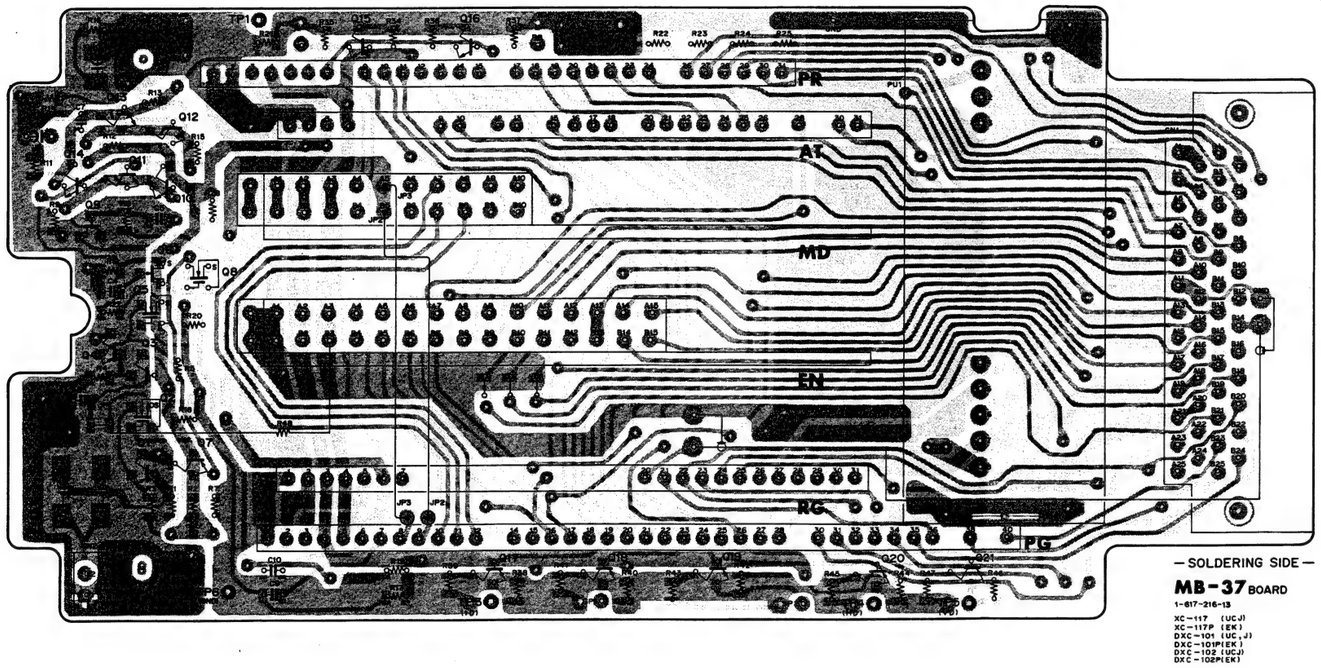
CN-39 BOARD

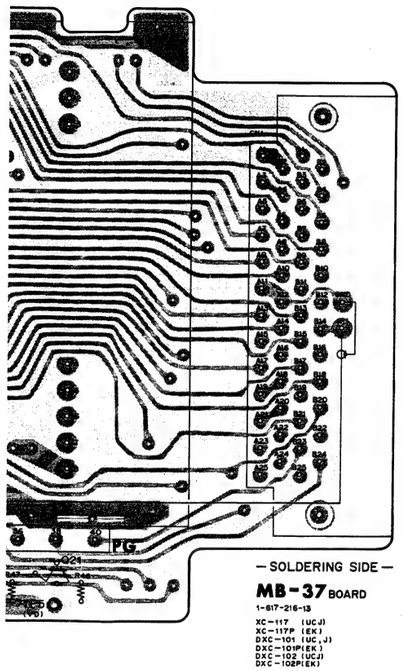
1-617-217-12

DXC-101 (UC,J)
DXC-101P (EK)

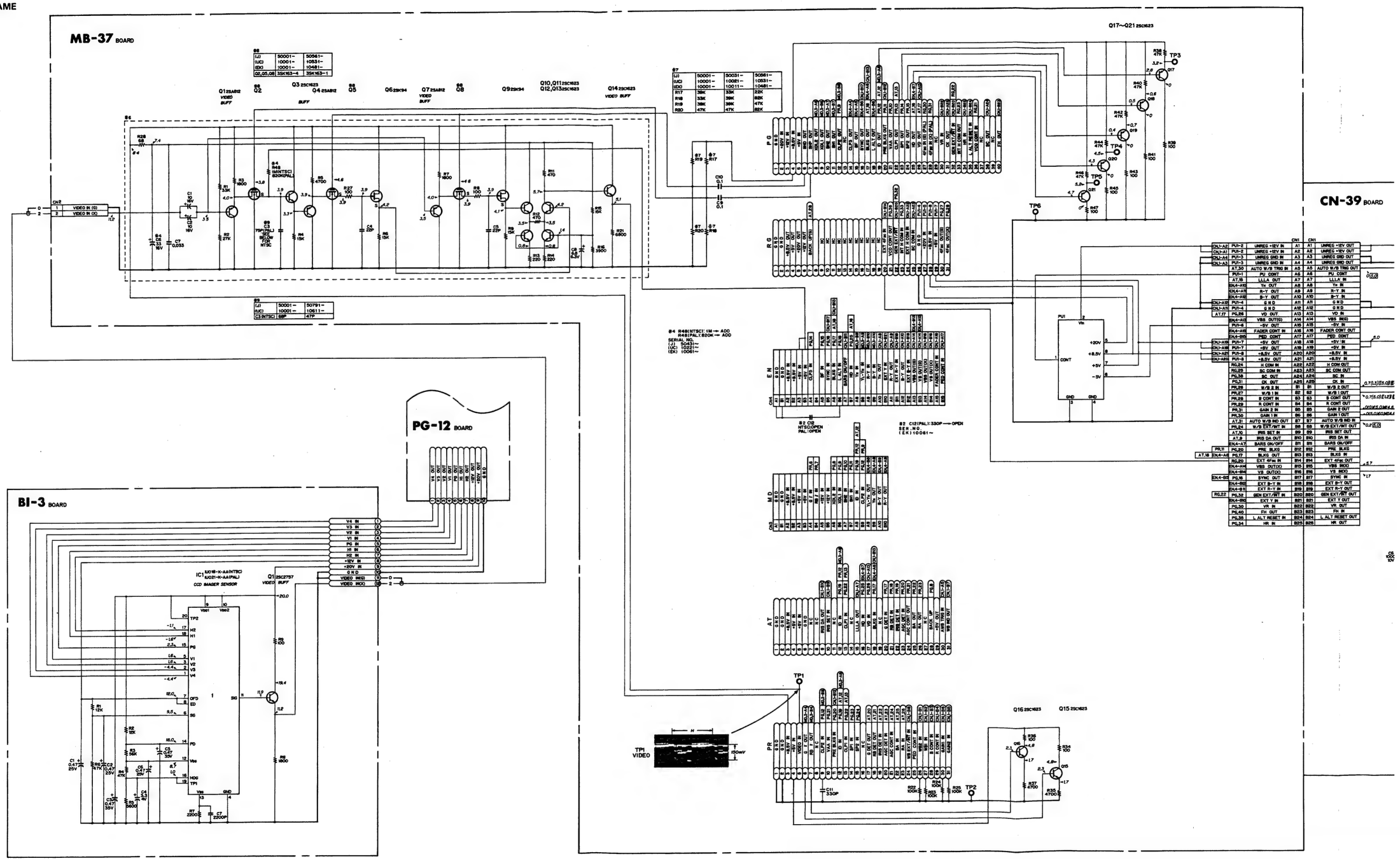
MB-37 BOARD

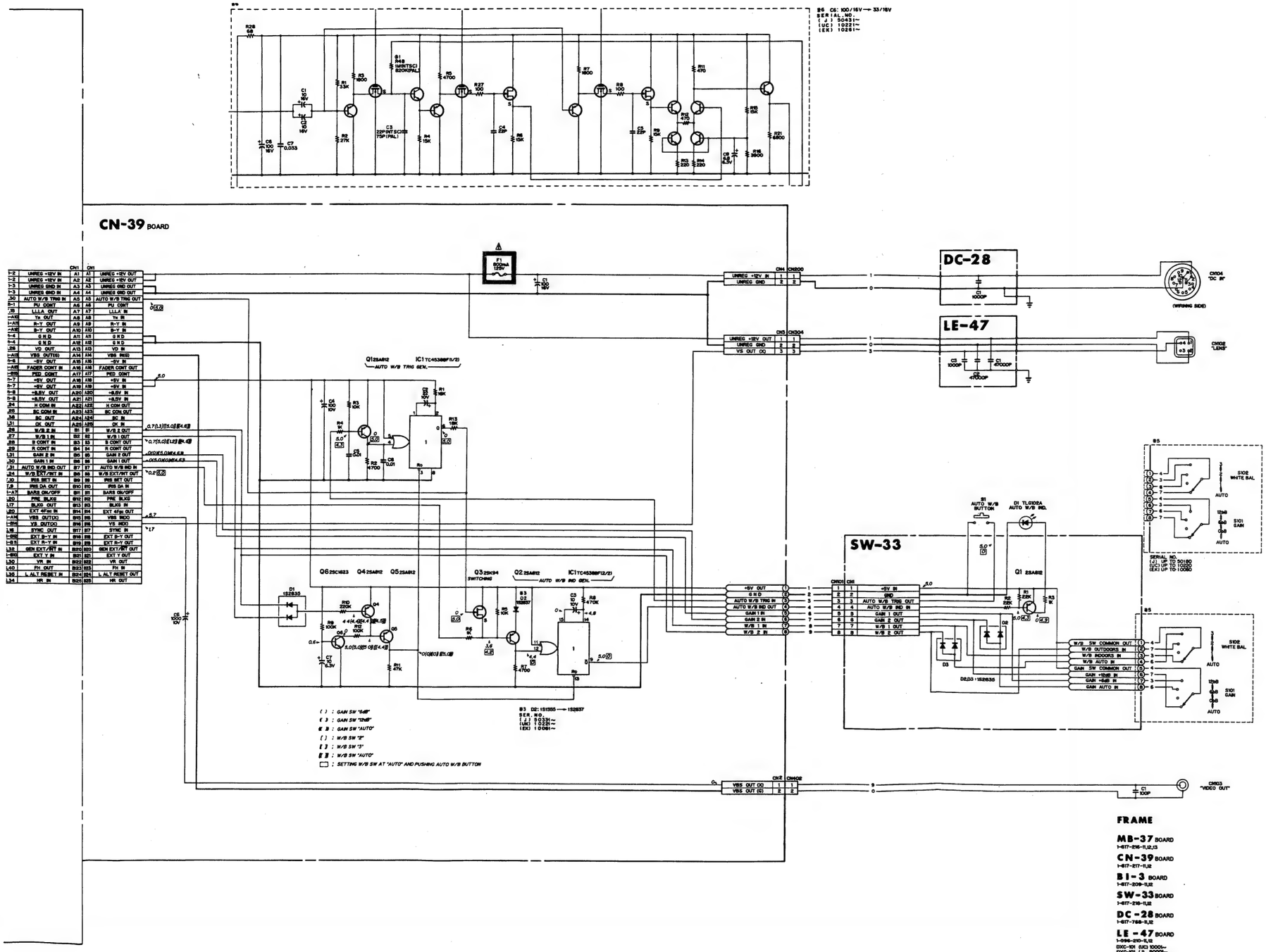
SERIAL NO.	
DXC-101 (J)	50611 and higher
DXC-101 (UC)	10631 and higher
DXC-101P (EK)	10581 and higher




PG
Q21
— SOLDERING SIDE —
MB-37 BOARD
1-617-216-13
XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P(EK)
DXC-102 (UCJ)
DXC-102P(EK)

DXC-101/101P FRAME
MB-37 BOARD
BI-3 BOARD
CN-39 BOARD
SW-33 BOARD
DC-28 BOARD
LE-47 BOARD





( ) : GAIN SW "0dB"
〔 〕: GAIN SW "12dB"
【 】: GAIN SW "AUTO"
( ) : W/B SW "2"
〔 〕: W/B SW "3"
【 】: W/B SW "AUTO"
□ : SETTING W/B SW AT "AUTO" AND PUSHING AUTO W/B BUTTON

FRAME

MB-37 BOARD 1-677-216-11,12,13
CN-39 BOARD 1-677-217-11,12
BI-3 BOARD 1-677-209-11,12
SW-33 BOARD 1-677-215-11,12
DC-28 BOARD 1-677-768-11,12
LE-47 BOARD 1-698-210-11,12
DXC-101 (UC) 10001～
DXC-101 (J) 50001～
DXC-101P(EX) 10001～

注意：

1．DC電圧はデジタル電圧計による値。

2．波形写真は下記条件で撮影。

- MB-37基板、TP1にてカラーバーの白部分が150mVp-pになる様レンズアイリスをセットする。
  (F≒4、波形モニターで100IRE)
- WHITE BALスイッチ←1(3200°K)"位置
- GAINスイッチ→"0dB"位置

3．⚠印及び▨で囲まれた部品は安全性を維持するために重要な部品です。従って交換する時は必ず指定の部品を使ってて下さい。

NOTE:

1. All voltage are dc, measured with a digital voltmeter (input resistance 10 MΩ).
2. All waveforms are taken in conditions below.
   - Shoot the color bar pattern on the pattern box.
     Adjust lens iris so that a white level at TP1/MB-37 board is 150 mV. [F≒4, White level on the waveform monitor is 100 IRE (700 mV for PAL)]
   - Set camera WHITE BAL switch to "1 (3200°K)".
   - Set camera GAIN switch to "0 dB".

3. The shaded and ⚠ marked components are critical to safety.
   Replace only with same components as specified.

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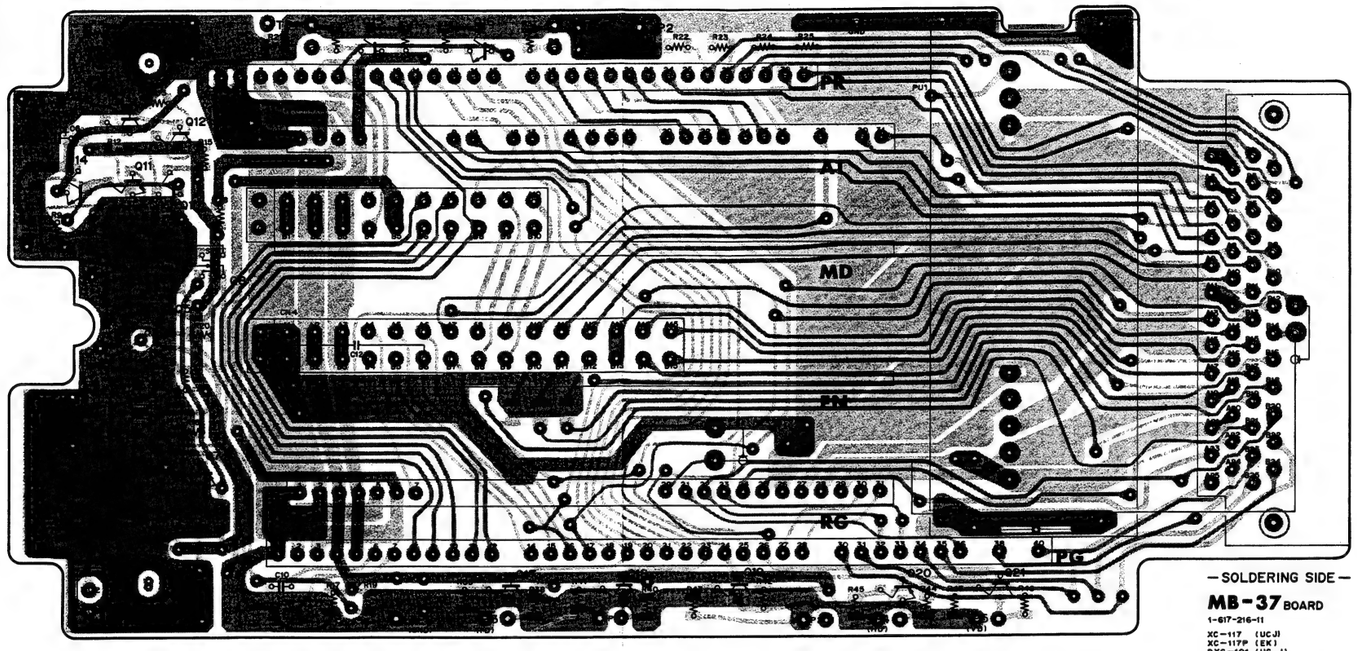
DXC-102/102P | MB-37,MB-38,BI-3,SG-110,SW-34,LE-47

MB-37 BOARD
MB-38 BOARD
BI-3 BOARD
SG-110 BOARD
SW-34 BOARD
LE-47 BOARD

SERIAL NO.
DXC-102 (J) Up to 10190
DXC-102 (UC) Up to 10180
DXC-102P (EK) Up to 10310

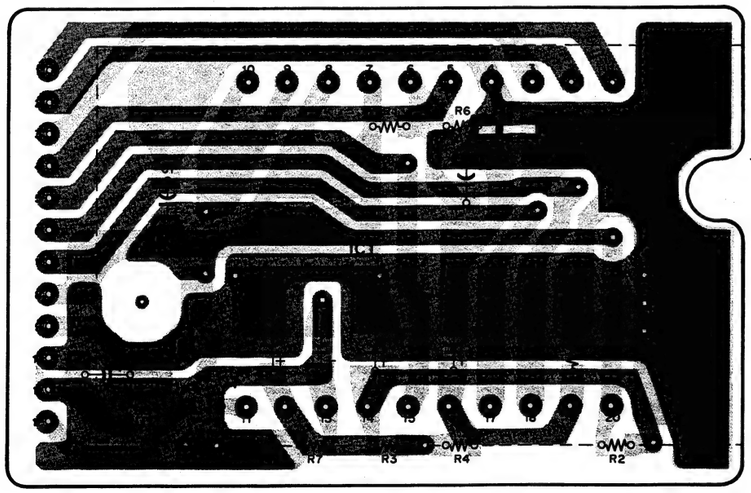


— SOLDERING SIDE —

MB-37 BOARD
1-617-216-11

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P(EK)
DXC-102 (UCJ)
DXC-102P(EK)

SERIAL NO.
DXC-102 (J) Up to 10020
DXC-102 (UC) Up to 10030
DXC-102P (EK) Up to 10010

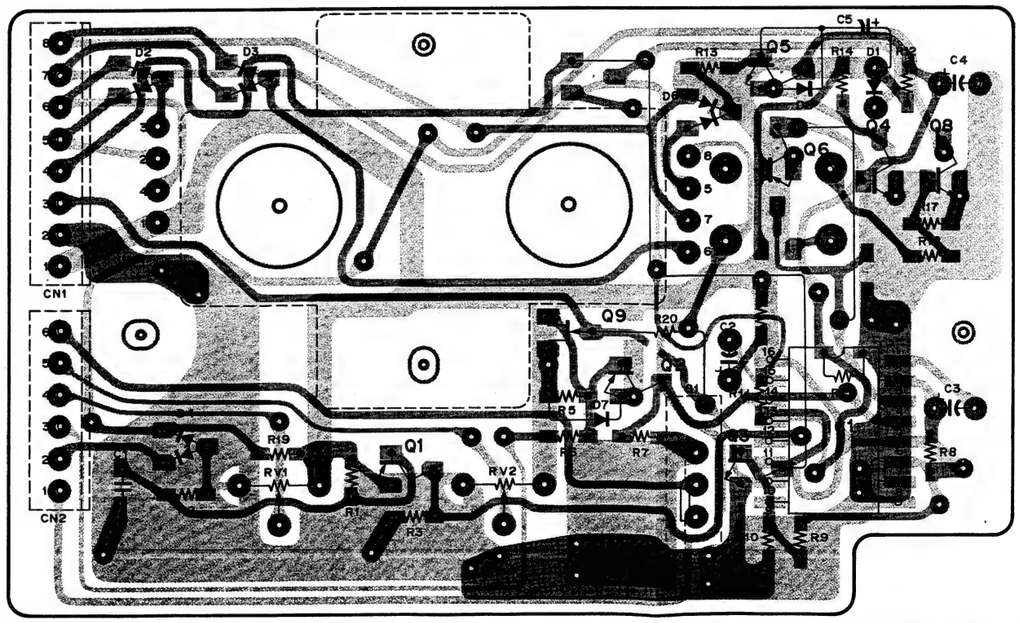


— SOLDERING SIDE —

BI-3 BOARD
1-617-209-11

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P(EK)

SERIAL NO.
DXC-102 (J) Up to 10190
DXC-102 (UC) Up to 10180
DXC-102P (EK) Up to 10310



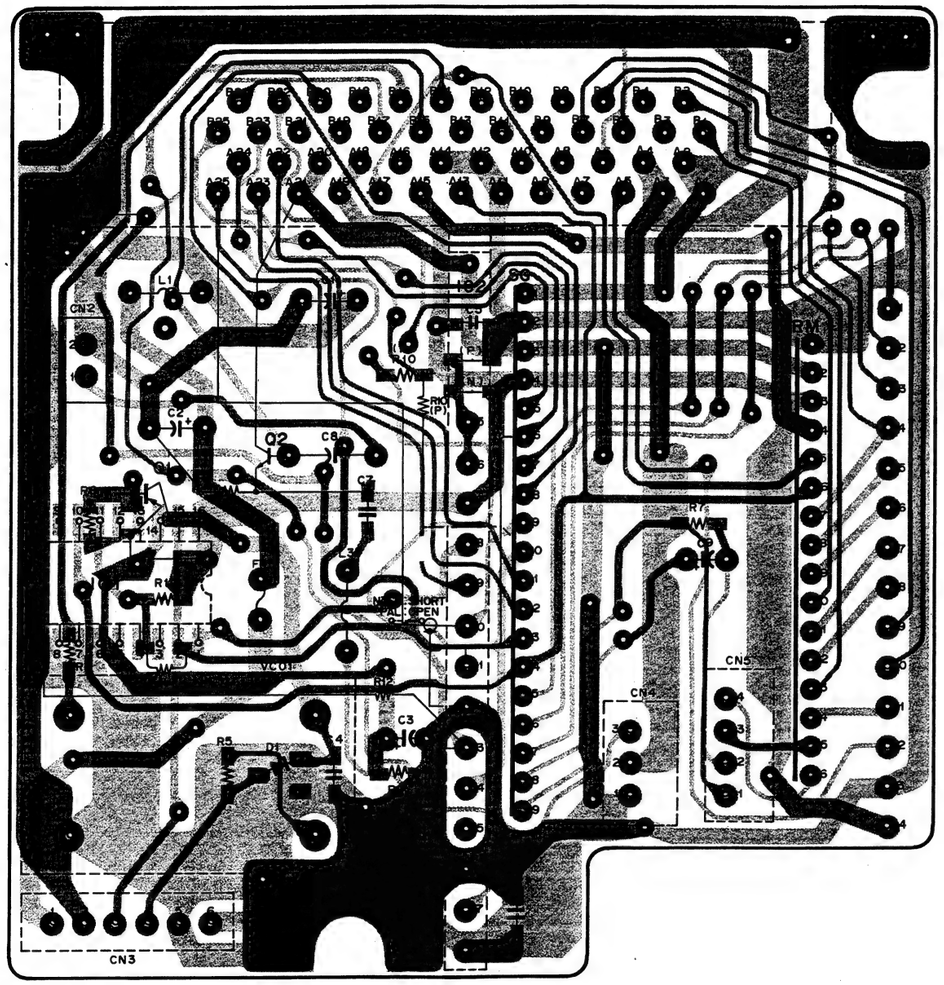
— SOLDERING SIDE —

SW-34 BOARD
1-617-223-11

DXC-102 (UCJ)
DXC-102P (EK)

DXC-102/102P | MB-37,MB-38,BI-3,SG-110,SW-34,LE-47

SERIAL NO.	
DXC-102 (J)	Up to 10190
DXC-102 (UC)	Up to 10180
DXC-102P (EK)	Up to 10310

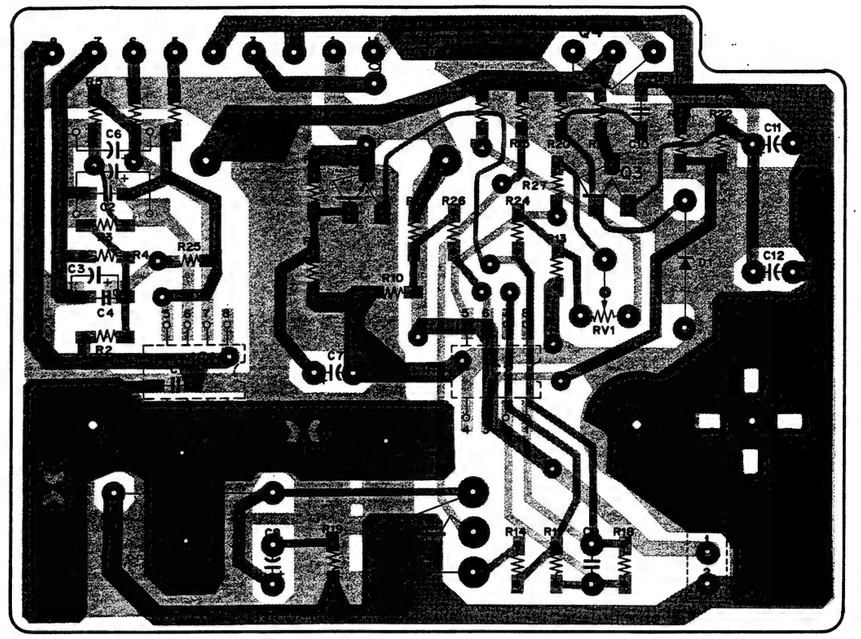


-SOLDERING SIDE-

MB-38 BOARD

1-617-213-11

CBK-117 (UCJ)
CBK-117P (EK)
DXC-102 (UC,J)
DXC-102P (EK)



-SOLDERING SIDE-

SG-110 BOARD

1-617-222-11

CBK-117 (UCJ)
CBK-117P (EK)
DXC-102 (UC,J)
DXC-102P (EK)

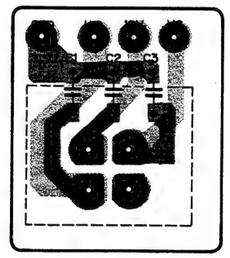
-SOLDERING SIDE-

LE-47 BOARD

1-617-767-11

DXC-101 (UC,J)
DXC-101P (EK)
DXC-102 (UC,J)
DXC-102P (EK)

SERIAL NO.	
DXC-102(J)	Up to 10020
DXC-102(UC)	Up to 10030
DXC-102P(EK)	Up to 10010



-SOLDERING SIDE-

LE-47B BOARD

1-617-768-21

DXC-102 (UC,J)
DXC-102P(EK)

SERIAL NO.	
DXC-102(J)	10021 and higher
DXC-102(UC)	10031 and higher
DXC-102P(EK)	10011 and higher

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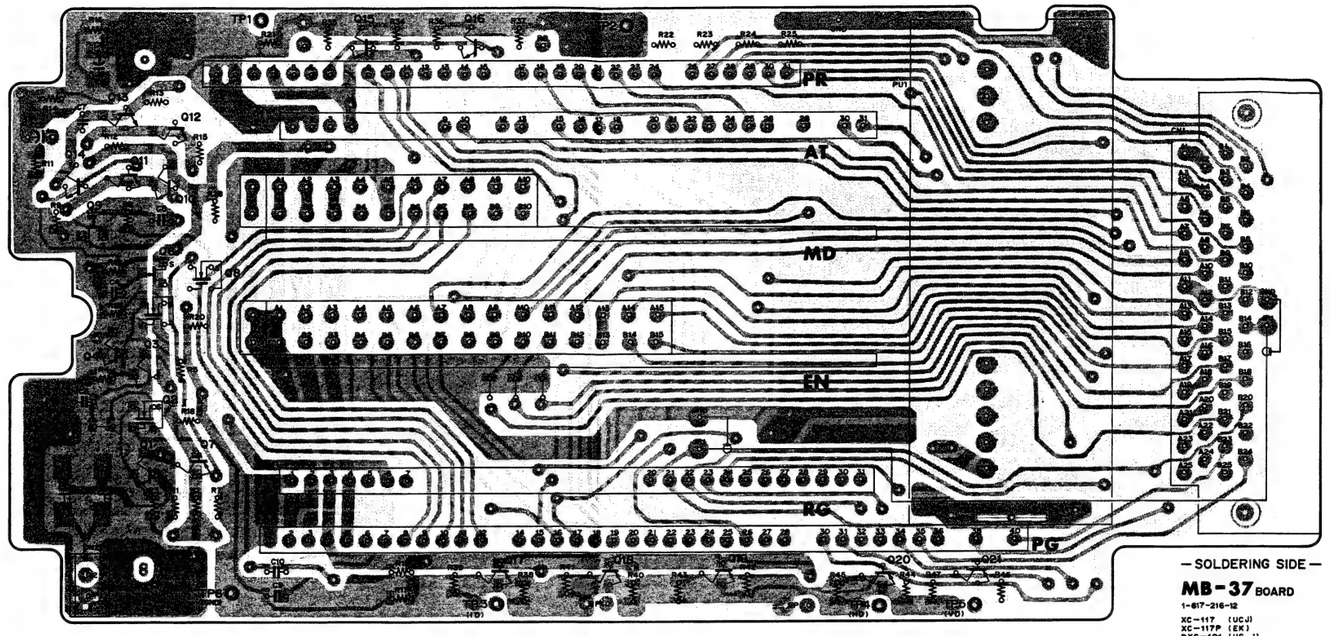
MB-37 BOARD
MB-38 BOARD
BI-3 BOARD
SW-34 BOARD

SERIAL NO.	
DXC-102 (J)	10191 to 10300
DXC-102 (UC)	10181 to 10410
DXC-102P (EK)	10311 to 10570



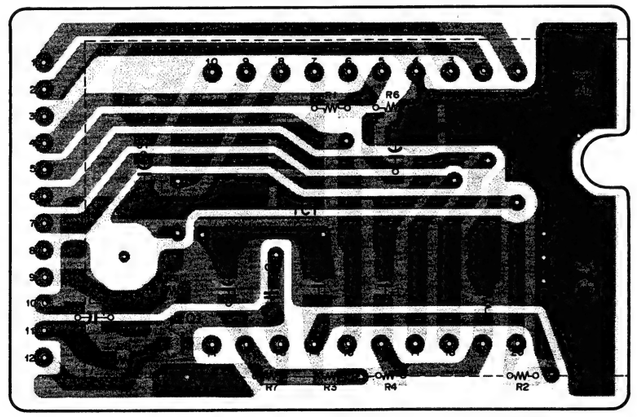
— SOLDERING SIDE —

MB-37 BOARD
1-617-216-12

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P(EK)
DXC-102 (UCJ)
DXC-102P(EK)

SERIAL NO.	
DXC-102 (J)	10021 and higher
DXC-102 (UC)	10031 and higher
DXC-102P (EK)	10011 and higher

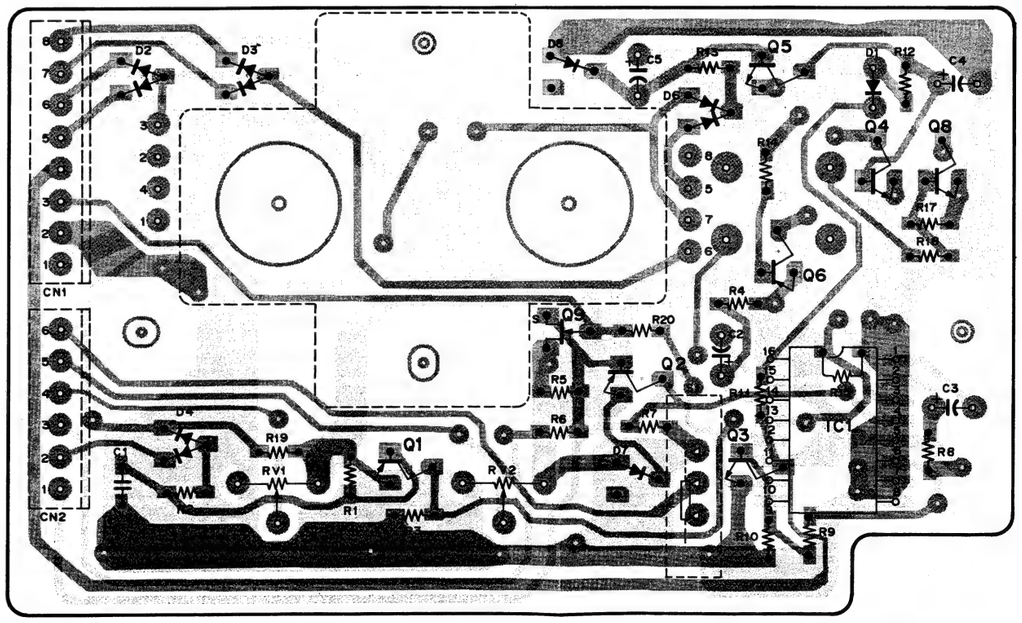
SERIAL NO.	
DXC-102 (J)	10191 and higher
DXC-102 (UC)	10181 and higher
DXC-102P (EK)	10311 and higher



— SOLDERING SIDE —

BI-3 BOARD
1-617-209-12

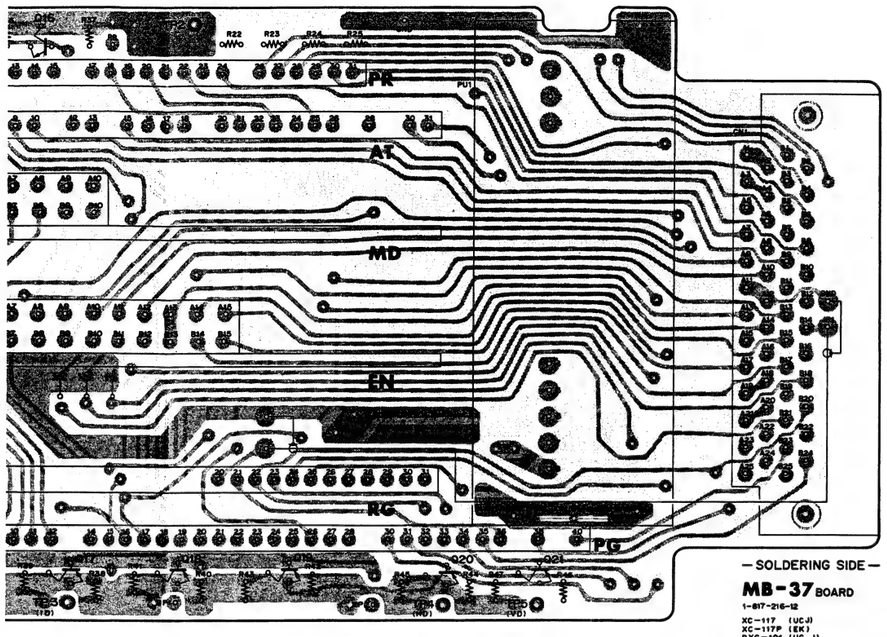
XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P (EK)
DXC-102 (UCJ)
DXC-102P (EK)



— SOLDERING SIDE —

SW-34 BOARD
1-617-223-12

DXC-102 (UC,J)
DXC-102P (EK)



— SOLDERING SIDE —

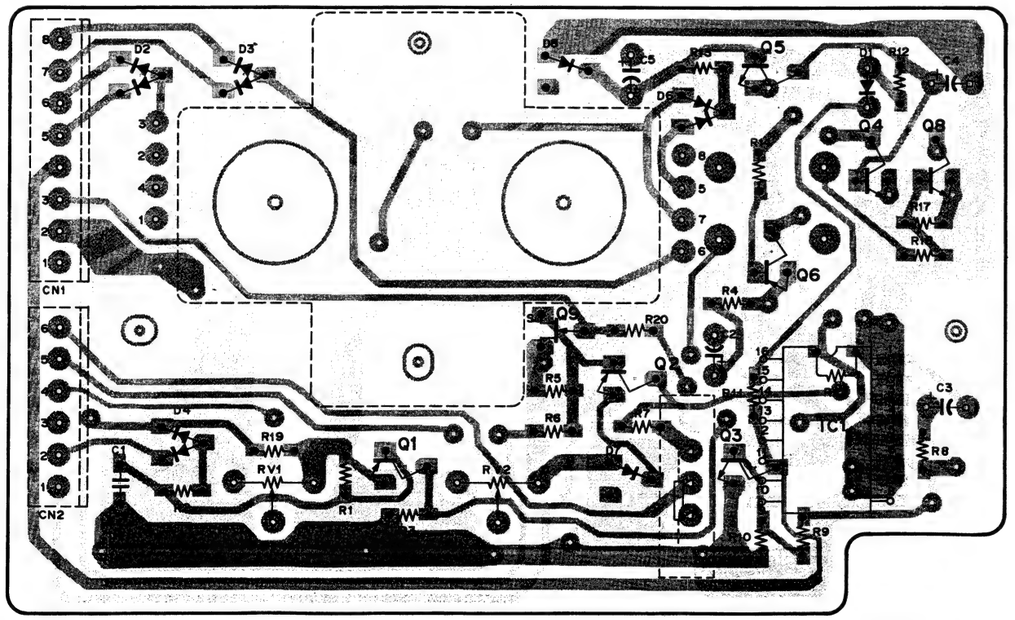
MB-37 BOARD

1-617-216-12

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC,J)
DXC-101P(EK)
DXC-102 (UCJ)
DXC-102P(EK)

SERIAL NO.

DXC-102 (J)	10191 and higher
DXC-102 (UC)	10181 and higher
DXC-102P (EK)	10311 and higher



— SOLDERING SIDE —

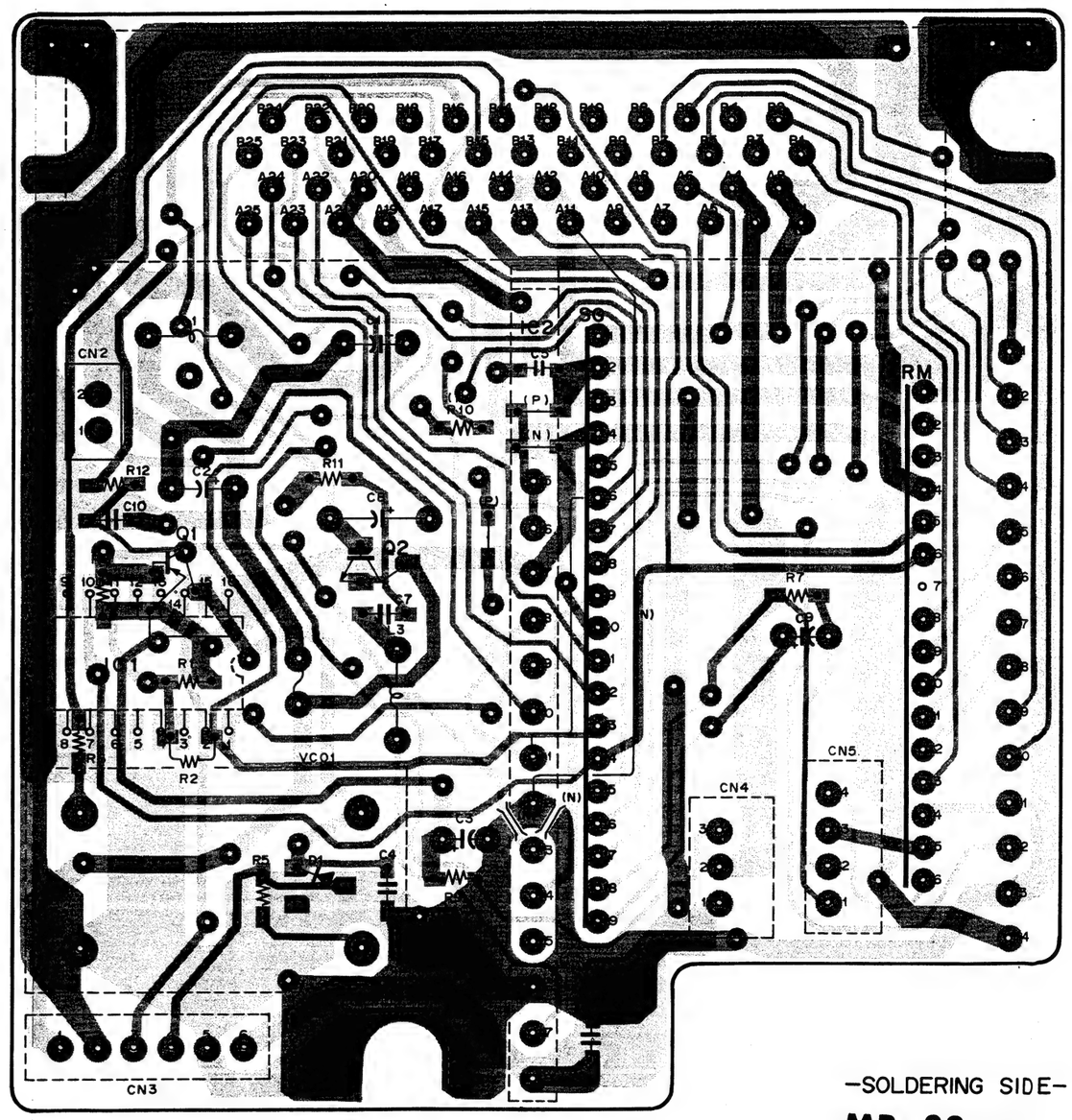
SW-34 BOARD

1-617-223-12

DXC-102 (UCJ)
DXC-102P (EK)

SERIAL NO.

DXC-102 (J)	10191 to 10470
DXC-102 (UC)	10181 to 10660
DXC-102P (EK)	10311 to 11070



—SOLDERING SIDE—

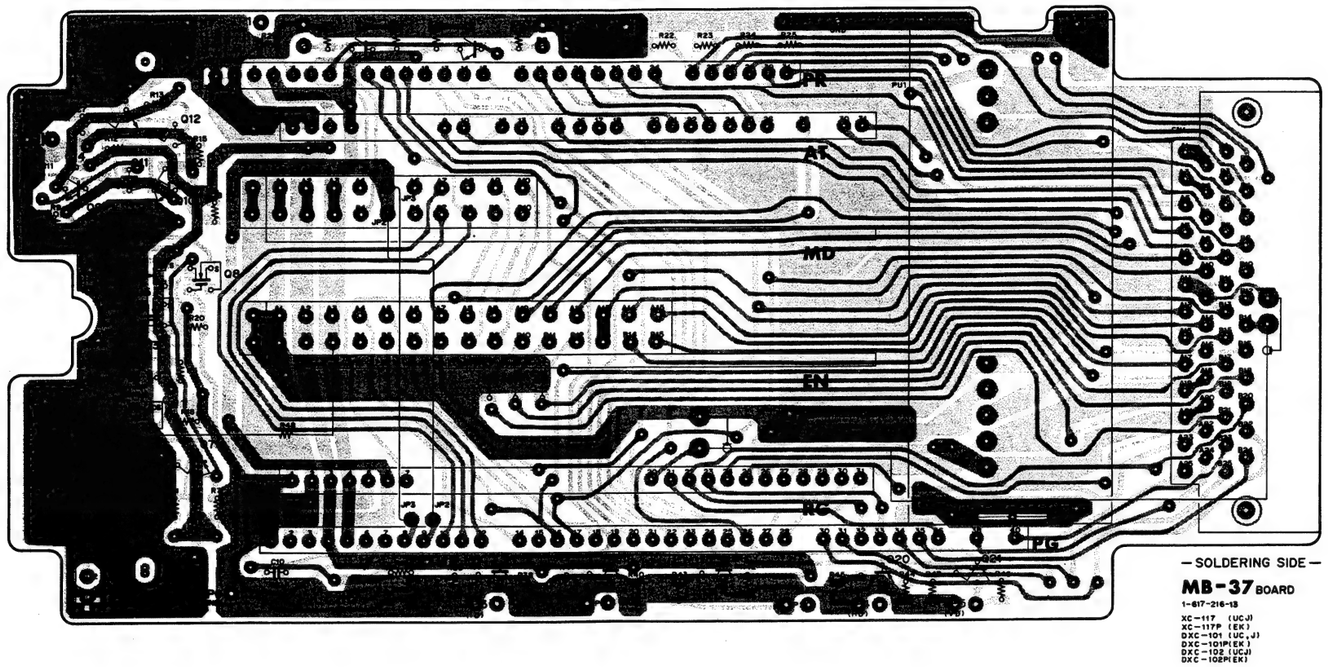
MB-38 BOARD

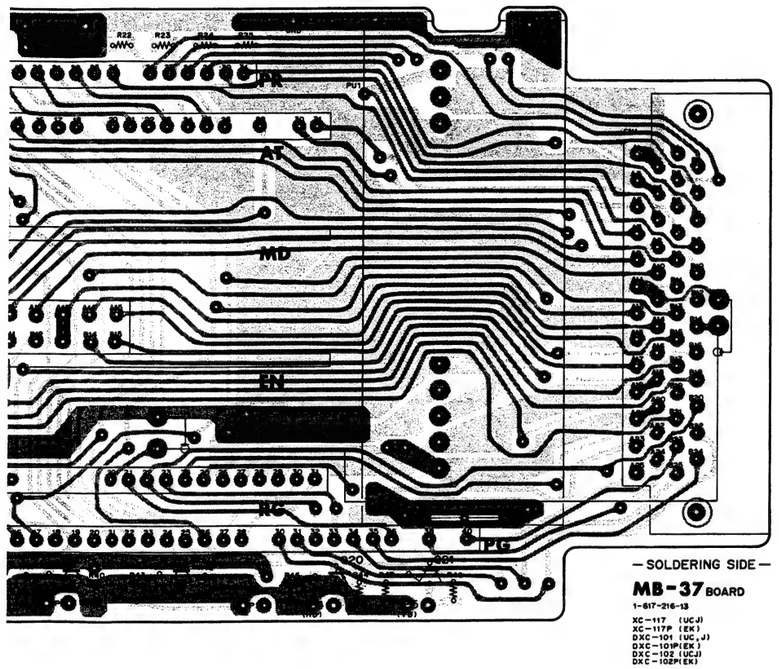
1-617-213-12

CBK-117 (UCJ)
CBK-117P (EK)
DXC-102 (UC,J)
DXC-102P (EK)

MB-37 BOARD
MB-38 BOARD

SERIAL NO.	
DXC-102 (J)	10301 and higher
DXC-102 (UC)	10411 and higher
DXC-102P (EK)	10571 and higher





—SOLDERING SIDE—

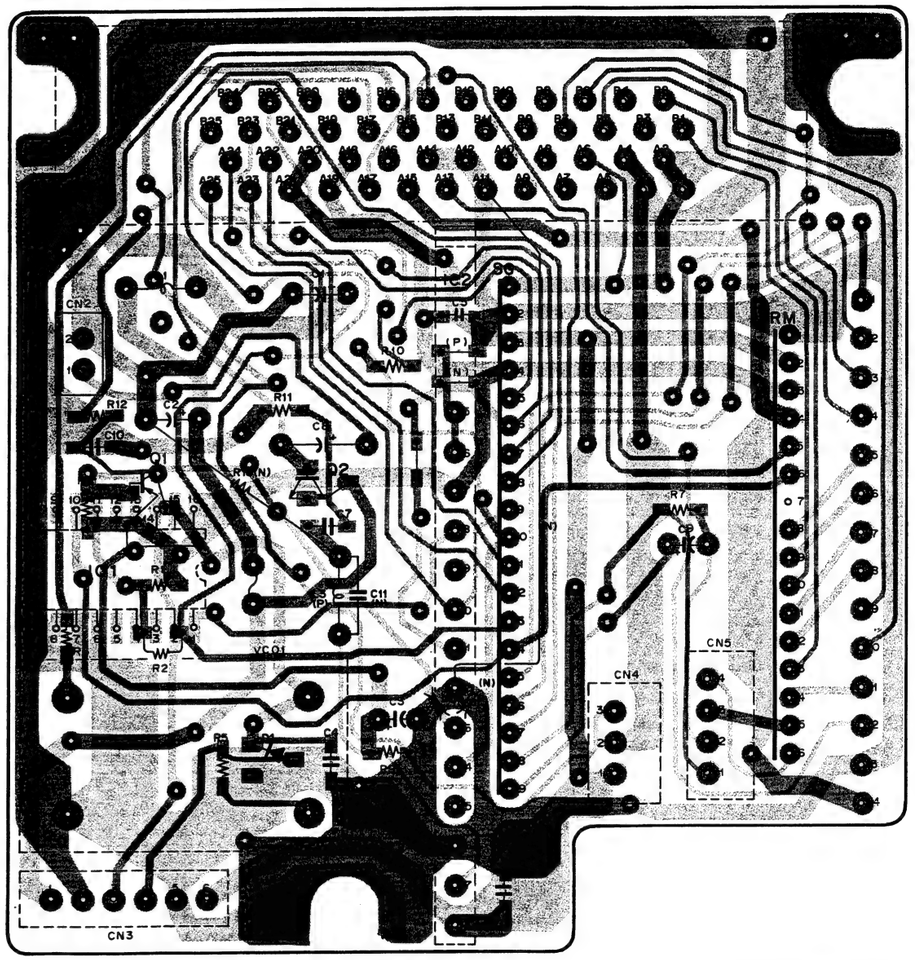
MB-37 BOARD

1-617-216-13

XC-117 (UCJ)
XC-117P (EK)
DXC-101 (UC, J)
DXC-101P (EK)
DXC-102 (UCJ)
DXC-102P (EK)

SERIAL NO.

DXC-102 (J)	10471 and higher
DXC-102 (UC)	10661 and higher
DXC-102P (EK)	11071 and higher



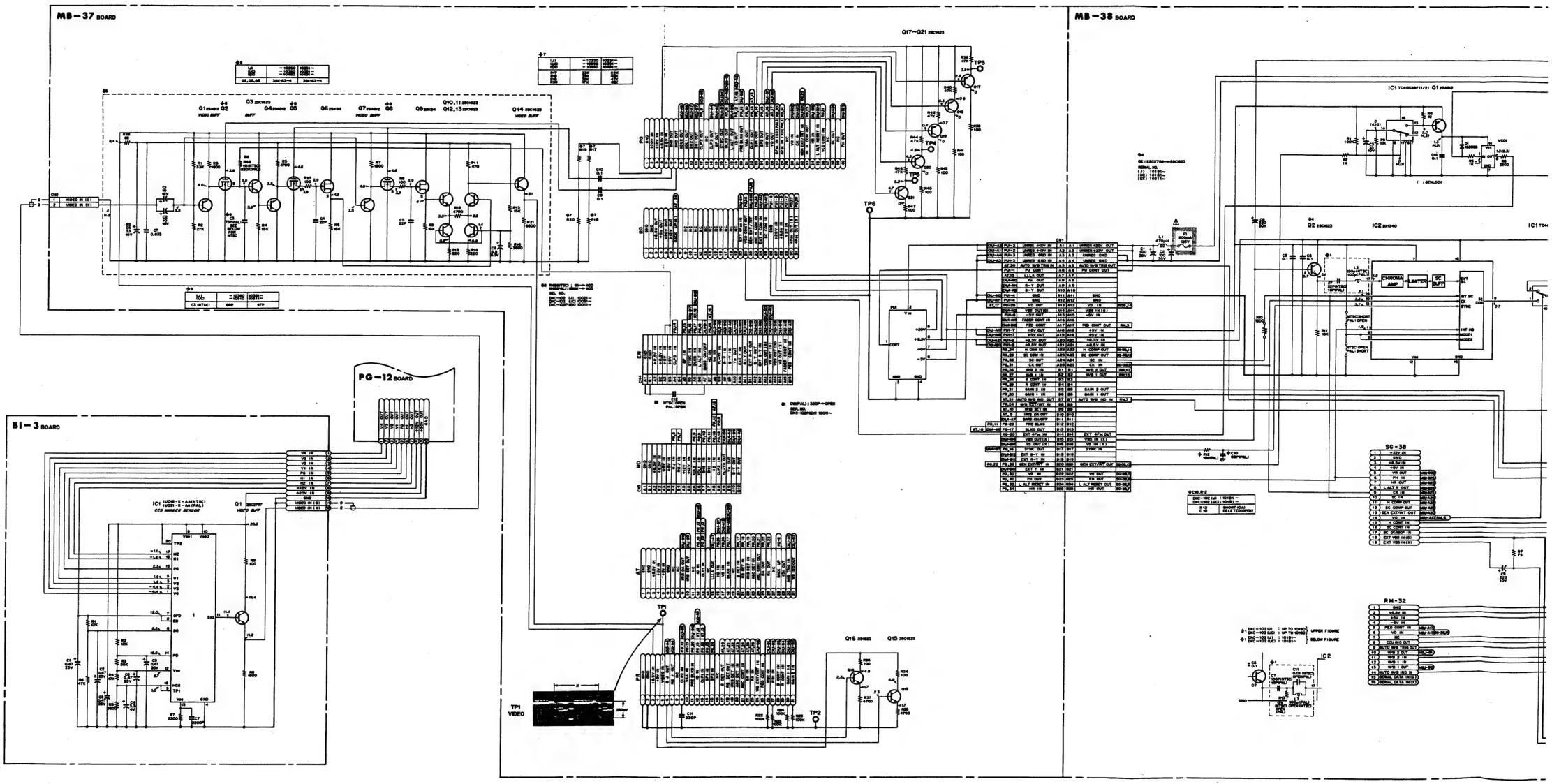
—SOLDERING SIDE—

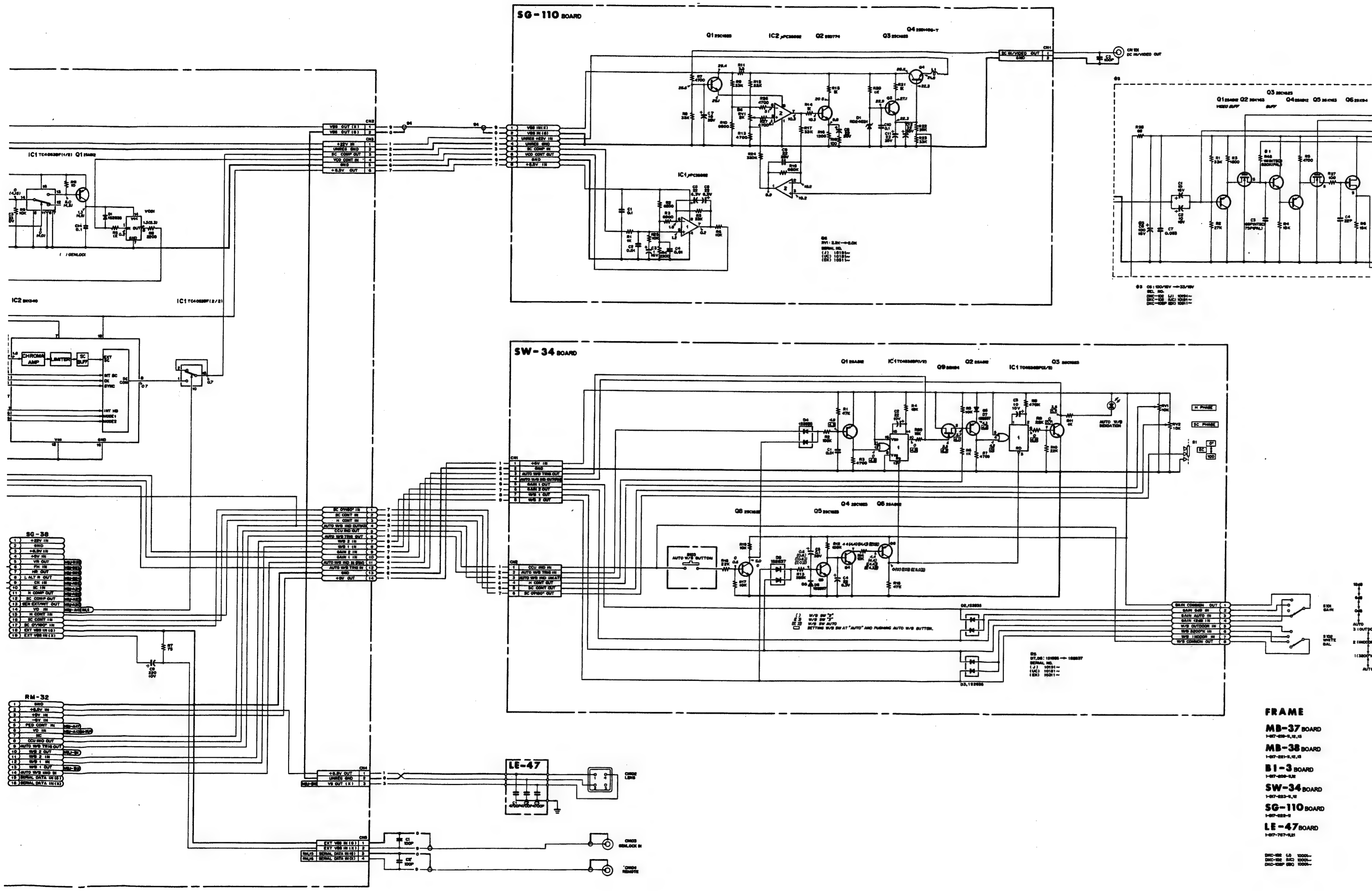
MB-38 BOARD

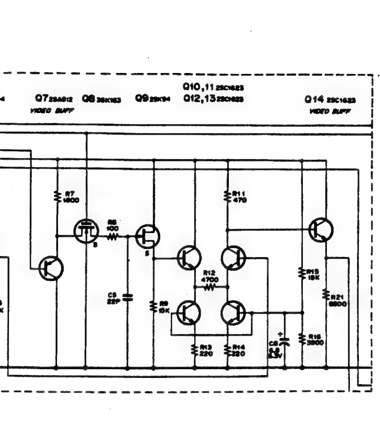
1-617-213-13

CBK-117 (UCJ)
CBK-117P (EK)
DXC-102 (UC, J)
DXC-102P (EK)

DXC-102/102P FRAME
MB-37 BOARD
MB-38 BOARD
BI-3 BOARD
SG-110 BOARD
SW-34 BOARD
LE-47 BOARD







注意：

1．DC電圧はデジタル電圧計による値。
2．波形写真は下記条件で撮影。
   ●MB-37基板、TP 1 にてカラーバーの白部分が150mVp-pになる様レンズアイリスをセットする。
   (F≒4、波形モニターで100IRE)
   ●WHITE BALスイッチ←1(3200°K)″位置
   ●GAINスイッチ→″0dB″位置
3．⚠印及び ▒▒▒ で囲まれた部品は安全性を維持するために重要な部品です。従って交換する時は必ず指定の部品を使って下さい。

NOTE:

1. All voltage are dc, measured with a digital voltmeter (input resistance 10 MΩ).
2. All waveforms are taken in conditions below.
   - Shoot the color bar pattern on the pattern box. Adjust lens iris so that a white level at TP1/MB-37 board is 150 mV. [F≒4, White level on the waveform monitor is 100 IRE (700 mV for PAL)]
   - Set camera WHITE BAL switch to "1 (3200°K)".
   - Set camera GAIN switch to "0 dB".

3. The shaded and ⚠ marked components are critical to safety.
   Replace only with same components as specified.

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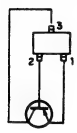
SECTION 7
SEMICONDUCTOR PIN ASSIGNMENTS

NOTE: The circuit diagram of IC is obtained from the IC data book published by the manufacturer.

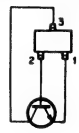
7-1. TRANSISTOR

TOP VIEW (SCALE 4/1)



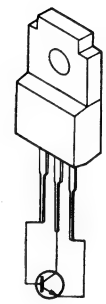
2SA1226
2SA812

TOP VIEW (SCALE 4/1)



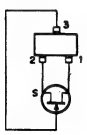
2SC1623
2SC2223
2SC2757

2SD774

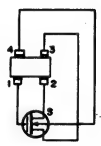


2SD1406

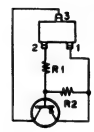
TOP VIEW (SCALE 4/1)



2SK94

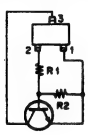


3SK163



DTA114EK (R1=10K, R2=10K)
DTA144WK (R1=47K, R2=22K)

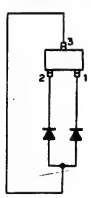
TOP VIEW (SCALE 4/1)



DTC144WK (R1=47K, R2=22K)

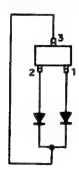
7-2. DIODE

TOP VIEW (SCALE 4/1)

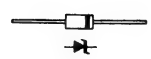


1S2836

TOP VIEW (SCALE 4/1)



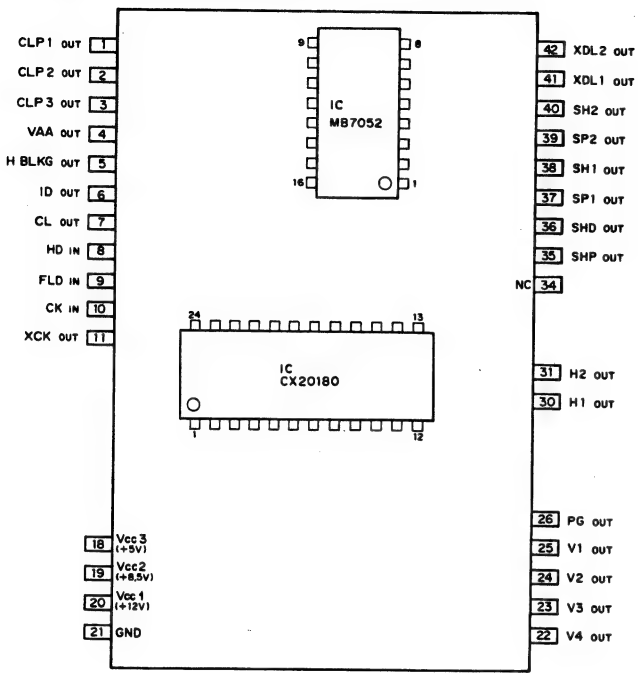
1S2837

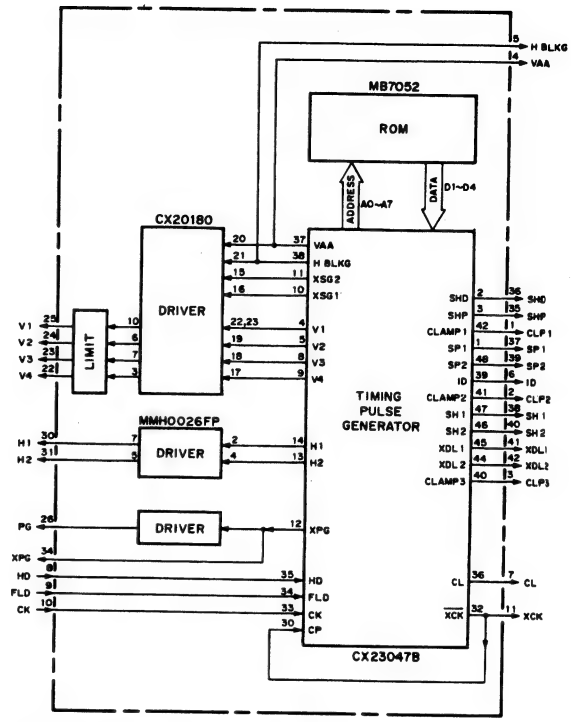


RD ? ?EB

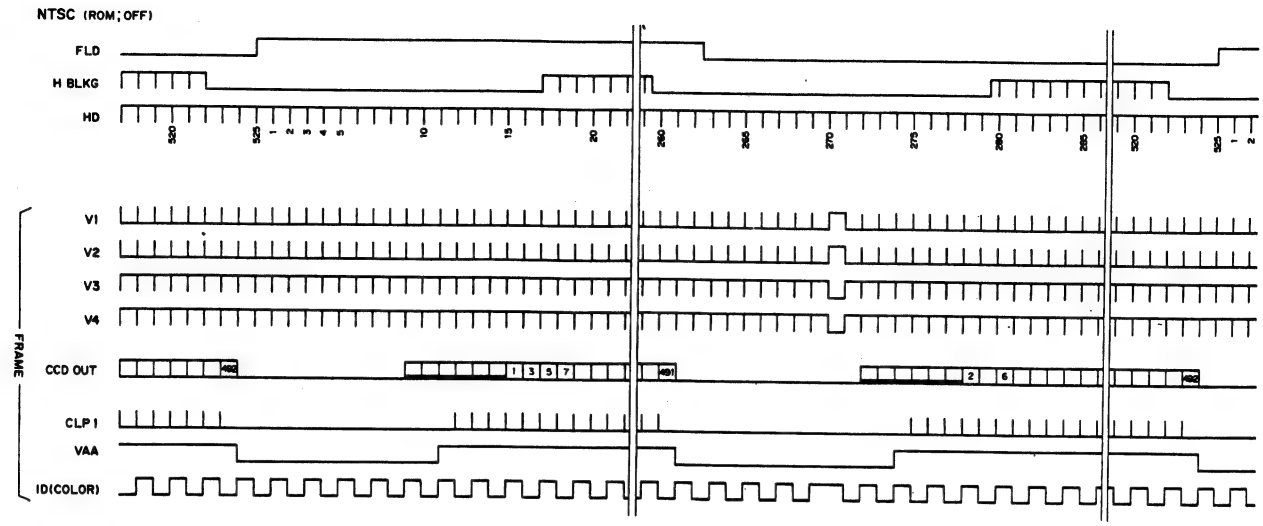
7-3. IC

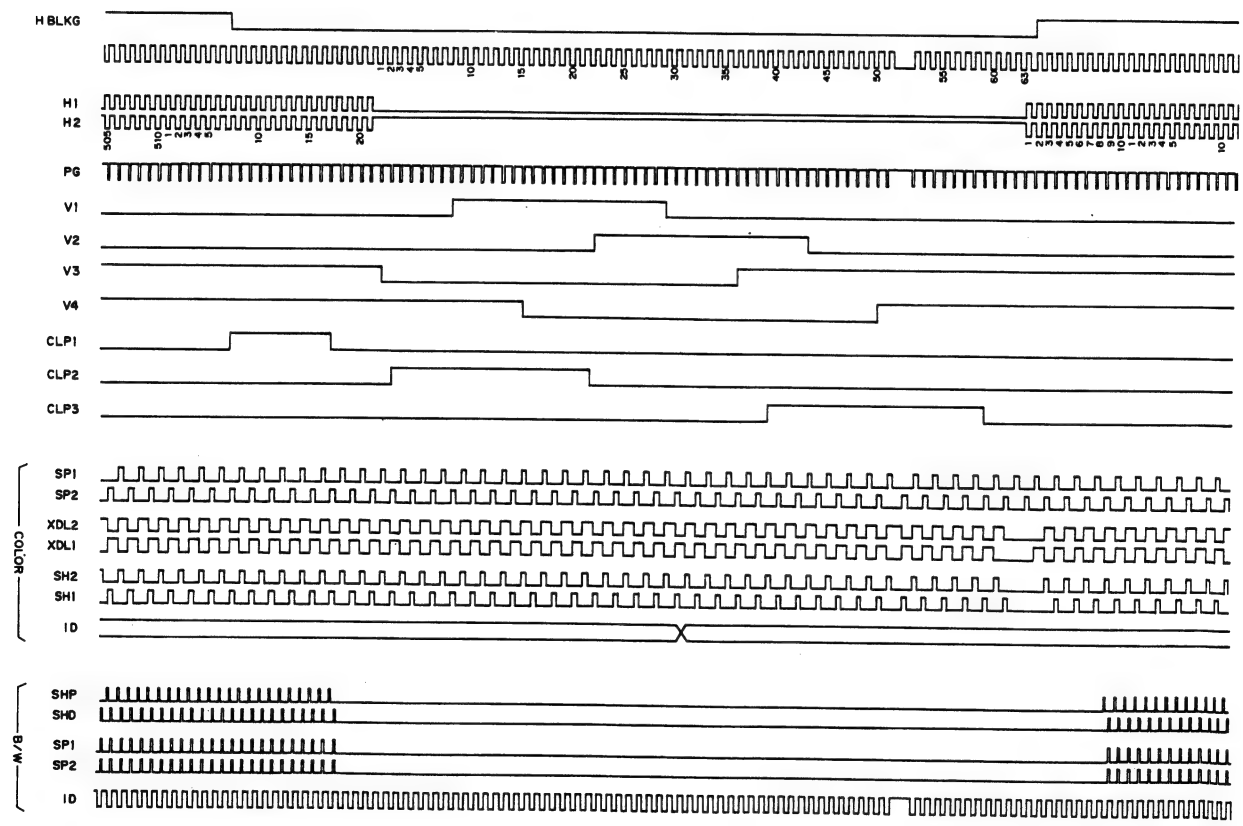
BH1203 (SONY)
C MOS-TIMING PULSE GENERATOR FOR CCD CAMERA
— TOP VIEW —

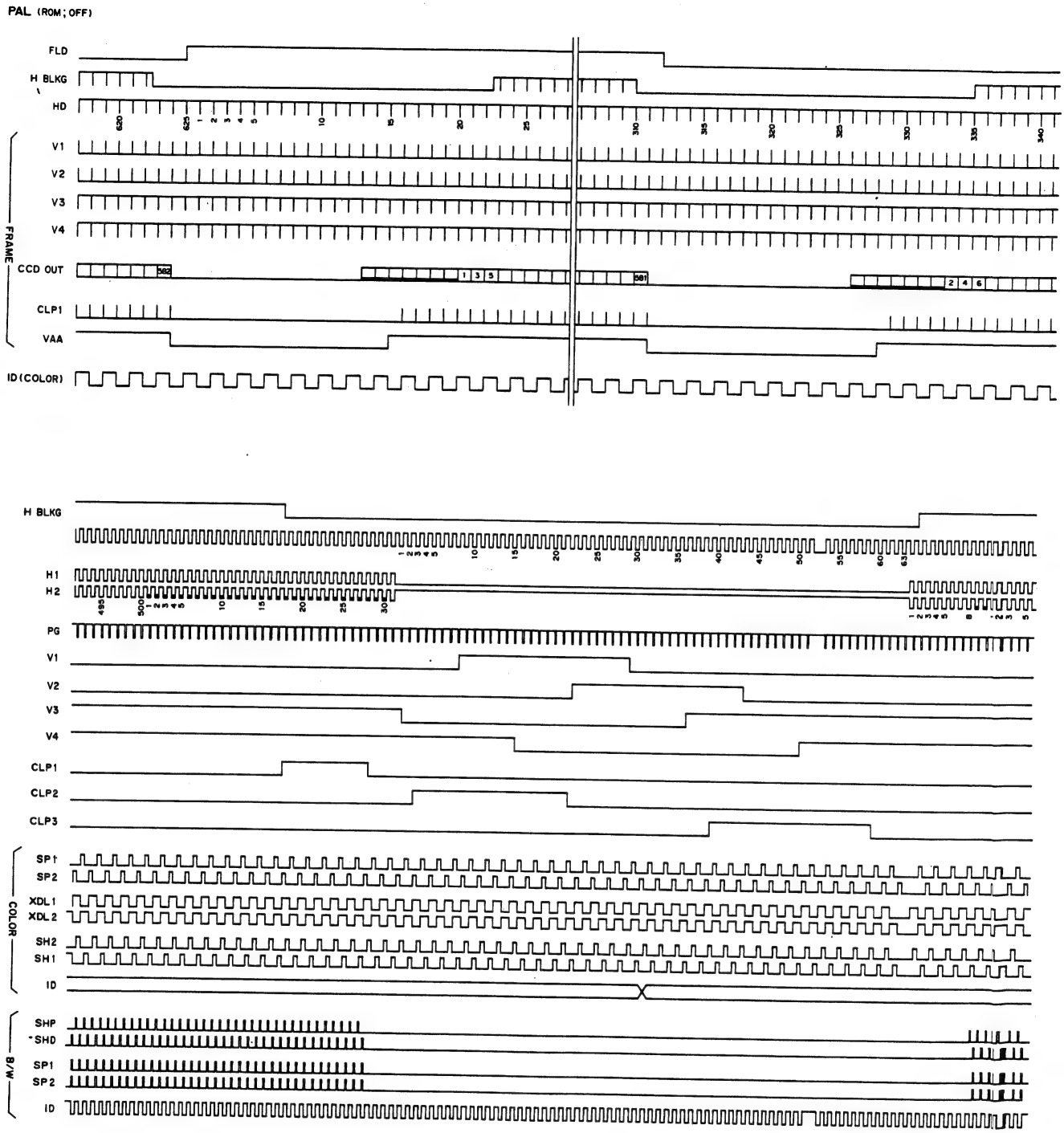




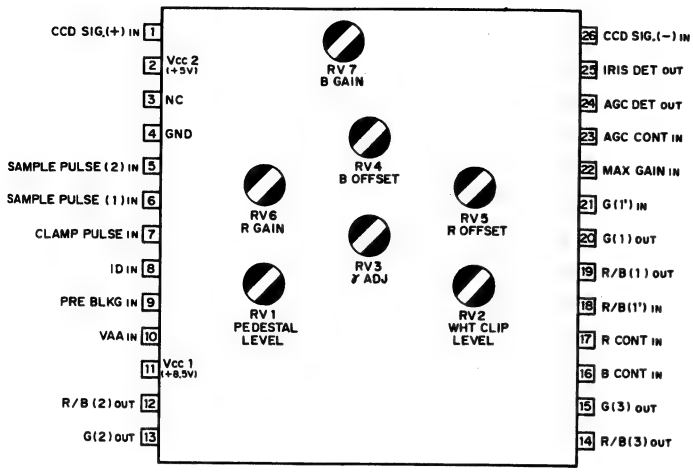
Note ; 1. NTSC/PAL MODE IS SELECTED BY ROM DATA.
2. FREQUENCY OF CK, NTSC; 28.6364 MHz
PAL ; 28.3750 MHz

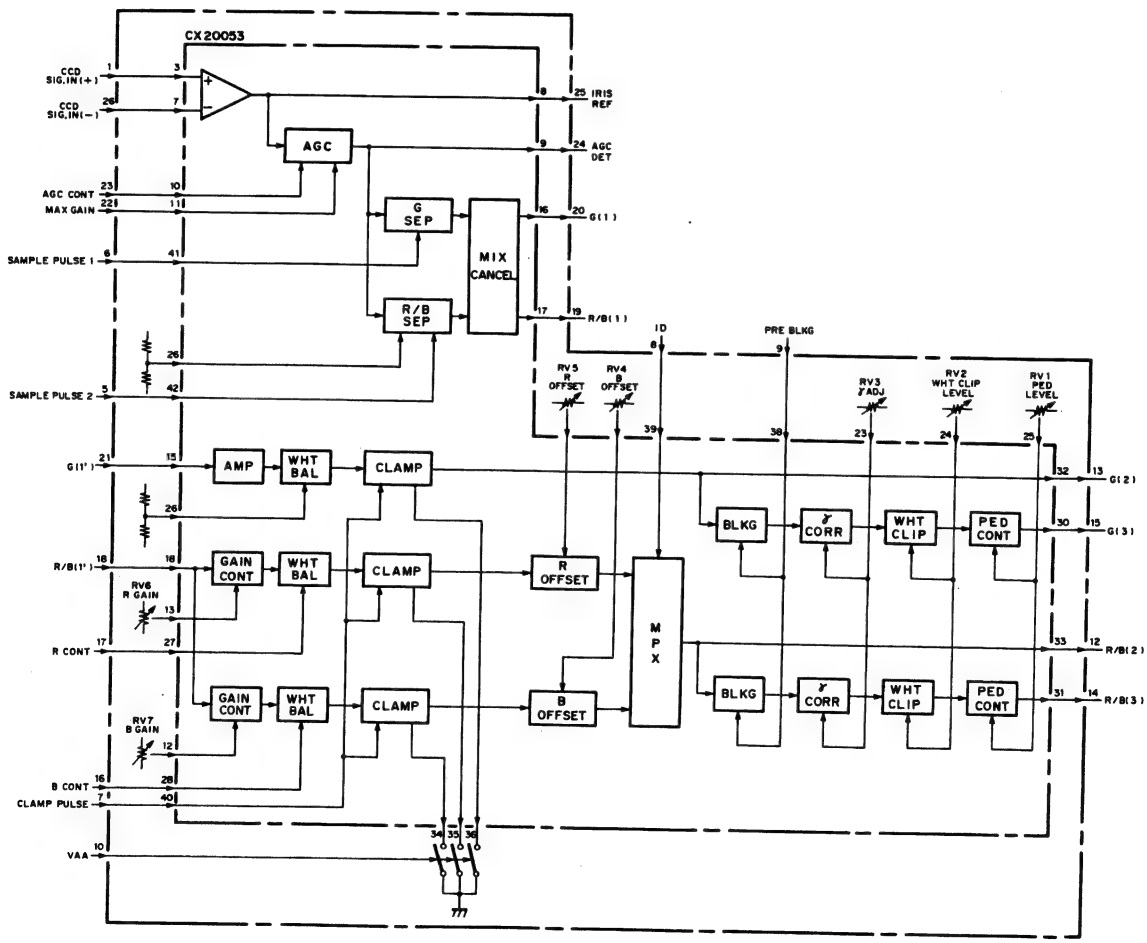

NTSC (ROM;OFF)
FLD
H BLKG
HD
FRAME
V1
V2
V3
V4
CCD OUT
CLP1
VAA
ID(COLOR)


H BLKG
H1
H2
PG
V1
V2
V3
V4
CLP1
CLP2
CLP3
COLOR
SP1
SP2
XDL2
XDL1
SH2
SH1
ID
B/W
SHP
SHD
SP1
SP2
ID

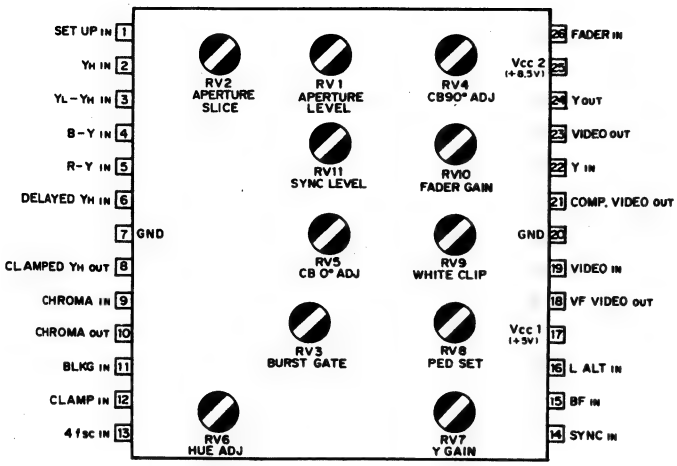

PAL (ROM; OFF)
FLD
H BLKG
HD
V1
V2
V3
V4
FRAME
CCD OUT
CLP1
VAA
ID(COLOR)
H BLKG
H1
H2
PG
V1
V2
V3
V4
CLP1
CLP2
CLP3
SP1
SP2
XDL1
XDL2
SH2
SH1
ID
COLOR
SHP
SHD
SP1
SP2
ID
B/W

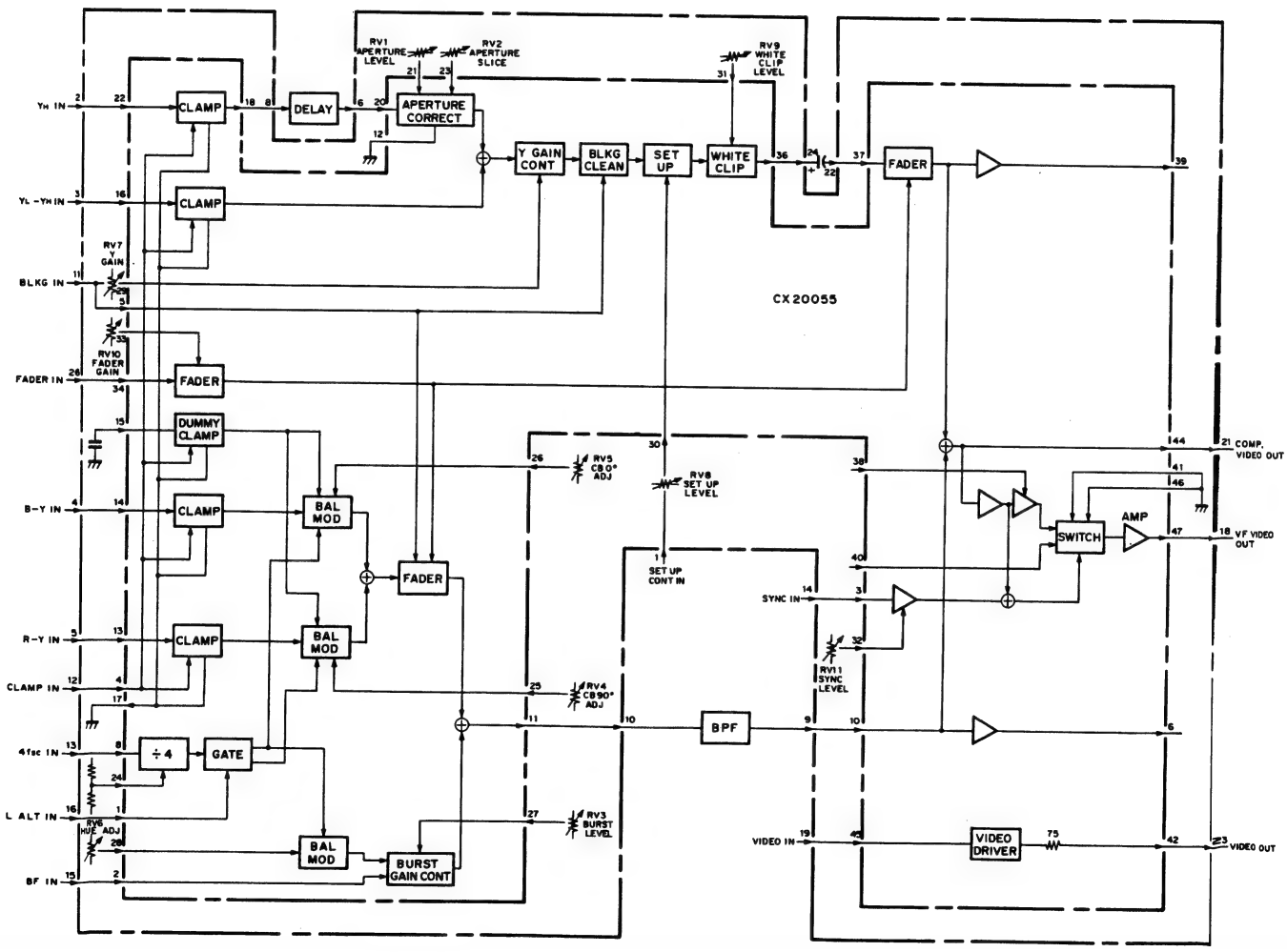
BH1204 (SONY)
VIDEO SIGNAL PROCESSOR FOR CCD COLOR CAMERA
— TOP VIEW —



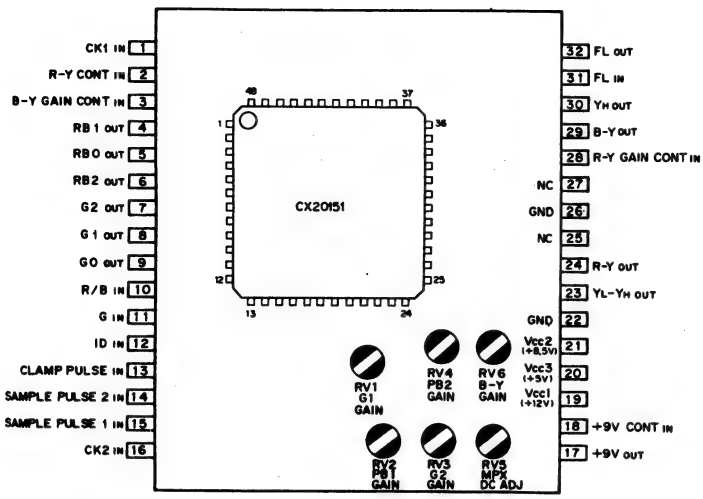


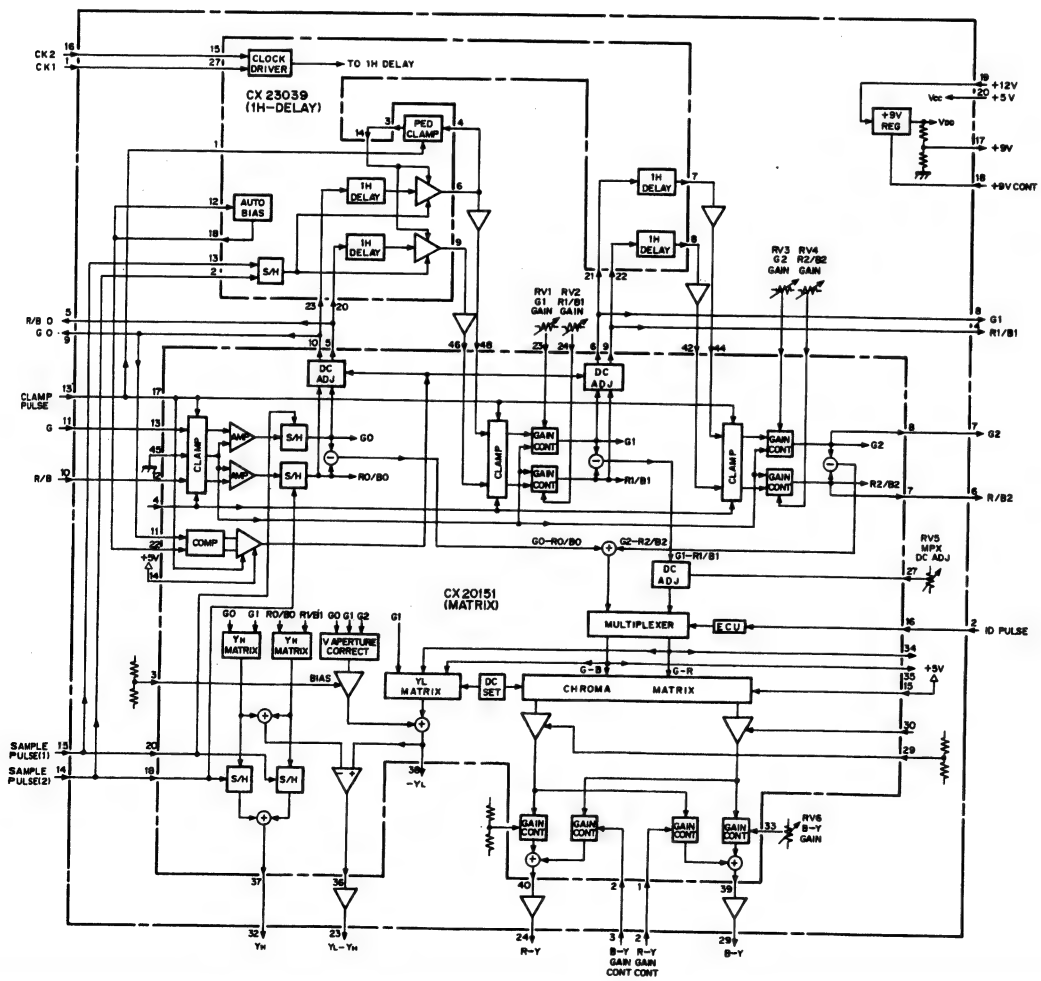
BH1205 (SONY)
ENCODER FOR COLOR CAMERA
— TOP VIEW —



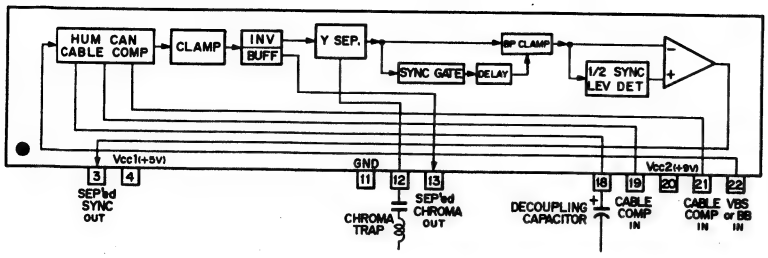


BH1206 (SONY)
YH/YL-YH/R-Y/B-Y GENERATOR FOR COLOR CAMERA
— TOP VIEW —

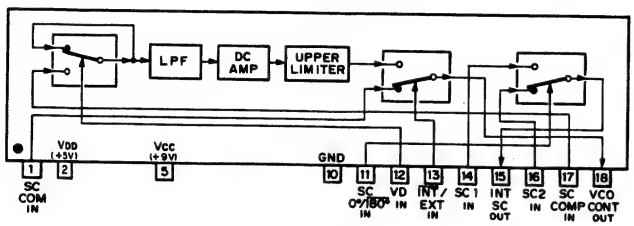




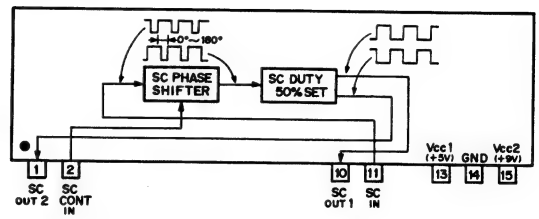
BX1337 (SONY)
SYNC SEPARATOR
— REAR VIEW —



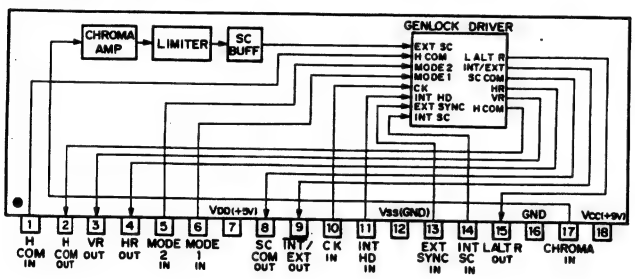
BX1338 (SONY)
APC AMPLIFIER AND SC 0°/180° SELECTOR
— REAR VIEW —



BX1339 (SONY)
BX1339A (SONY)
SC PHASE SHIFTER
— REAR VIEW —



BX1340 (SONY)
SC LIMITER AND GENLOCK DRIVER
— REAR VIEW —

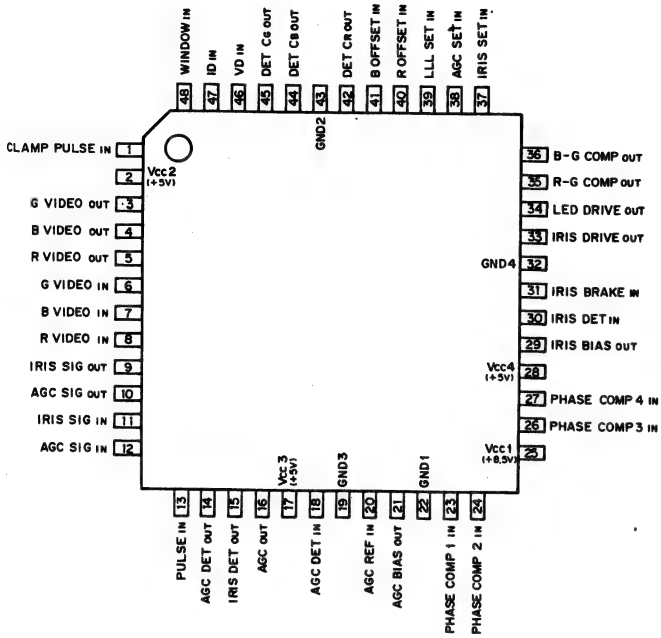


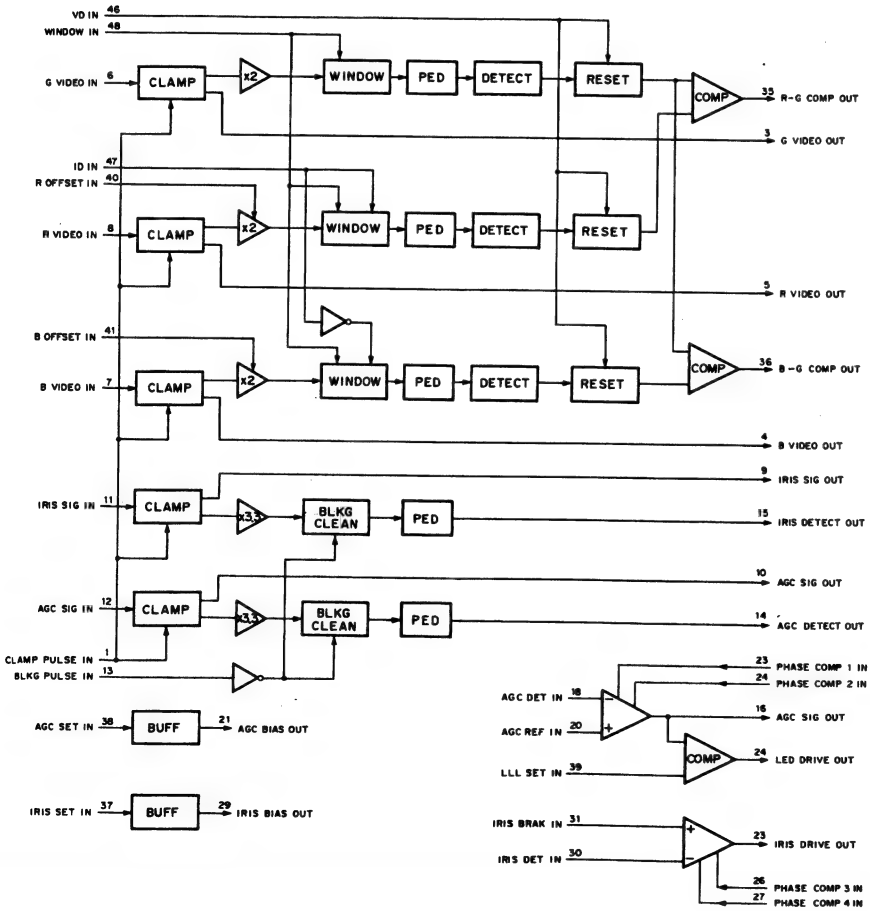
MODE SELECTION

MODE 1	MODE 2	MODE
1	1	NTSC
0	0	PAL

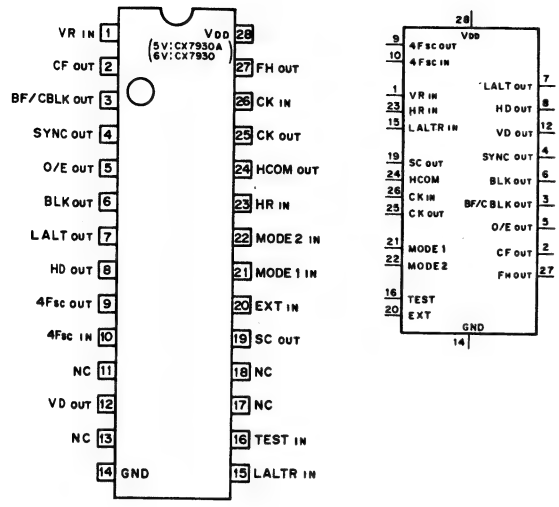
0; LOW LEVEL
1; HIGH LEVEL

CX20056 (SONY)
AUTO IRIS, AUTO WHITE BALANCE AND AGC CONTROL FOR COLOR CAMERA
— TOP VIEW —





CX7930-1 (SONY) FLAT PACKAGE
C-MOS SYNC GENERATOR (NTSC, PAL-M, PAL, SECAM)
— TOP VIEW —



O/E : ODD/EVEN FIELD
CF : COLOR FRAME PULSE
HCOM : H COMPARATOR

SYSTEM	4Fsc	CLOCK
NTSC	910 FH	910FH
PAL	1135FH+2Fv	908FH
PALM	909FH	910FH
SECAM	———	908FH

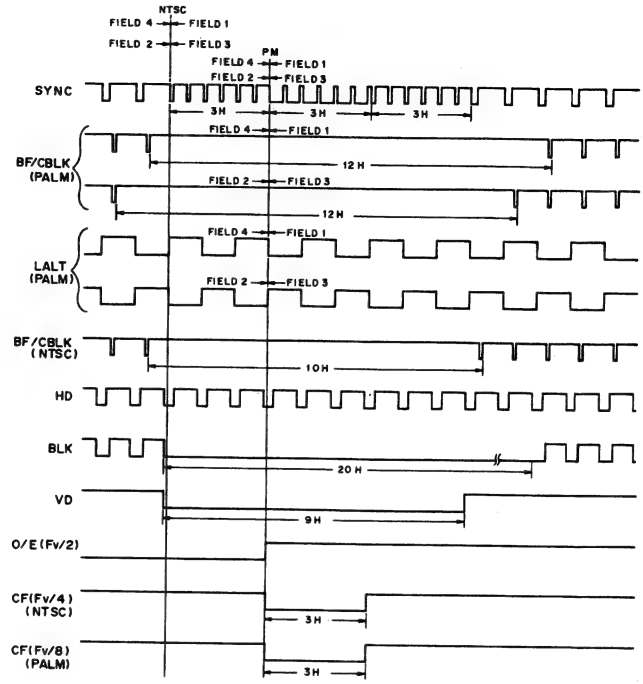
INPUTS MODE 1	INPUTS MODE 2	SYSTEM
0	0	NTSC
0	1	SECAM
1	0	PALM
1	1	PAL

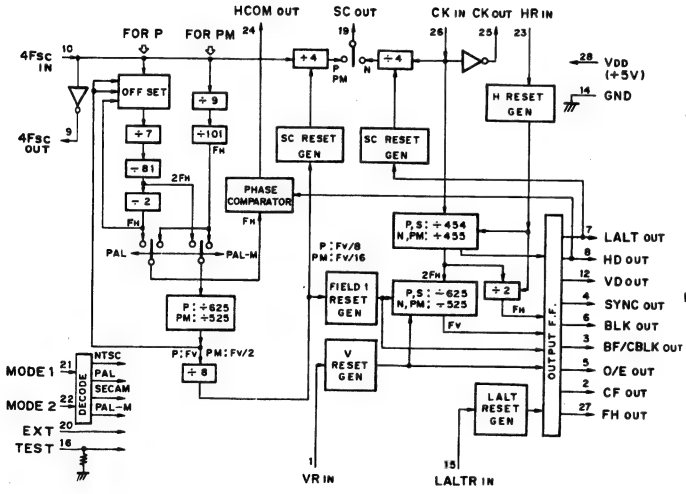
0 ; LOW LEVEL (GND)
1 ; HIGH LEVEL (VDD)

INPUTS EXT	INPUTS TEST	FUNCTION
0	0	INTERNAL
0	1	INVALID
1	0	EXT
1	1	TEST

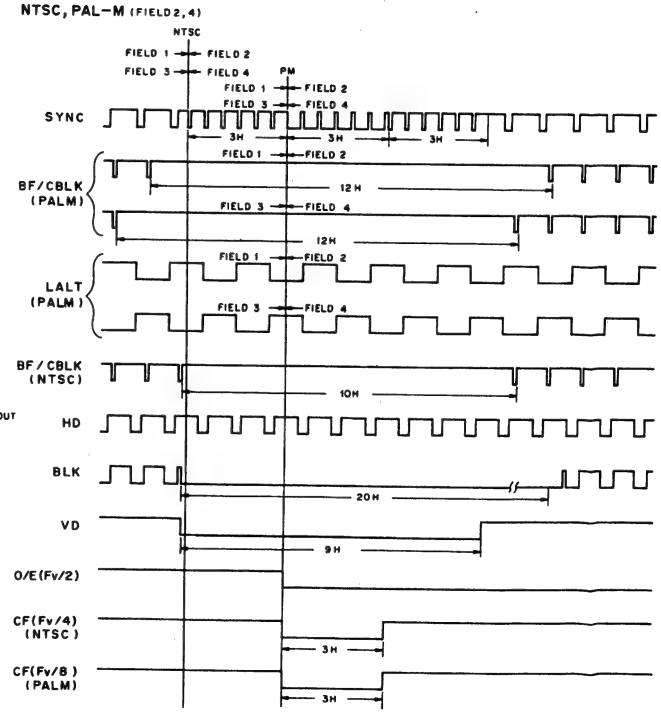
TEST "0": OPEN (INTERNALLY PULLED DOWN)

NTSC, PAL-M (FIELD 1,3)

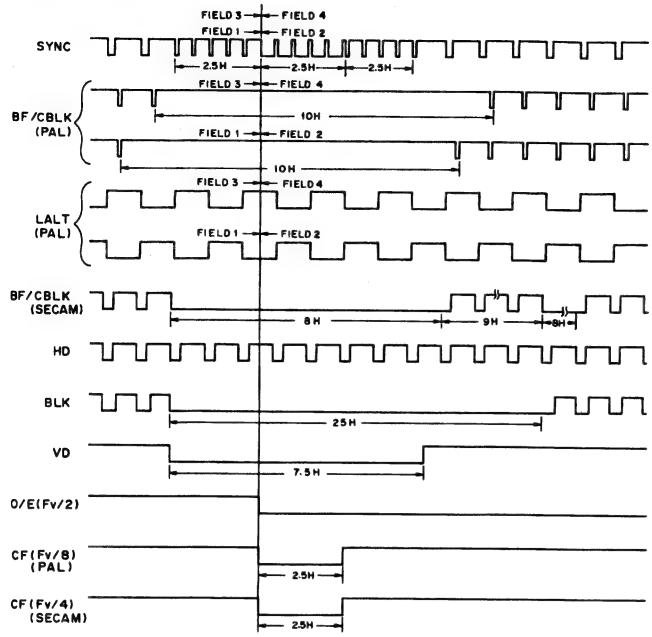




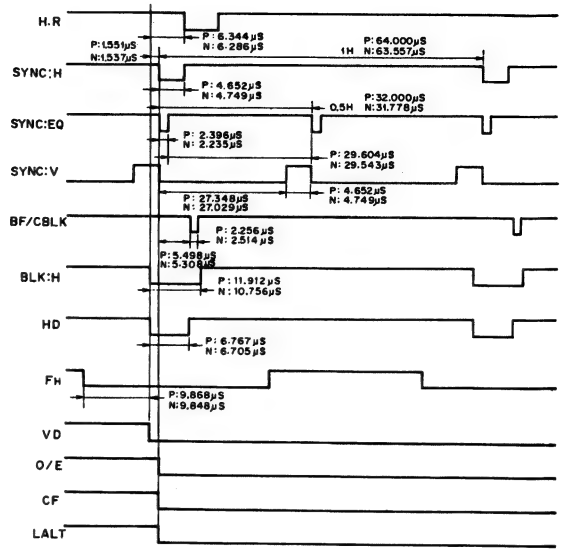
NTSC, PAL-M (FIELD 2, 4)



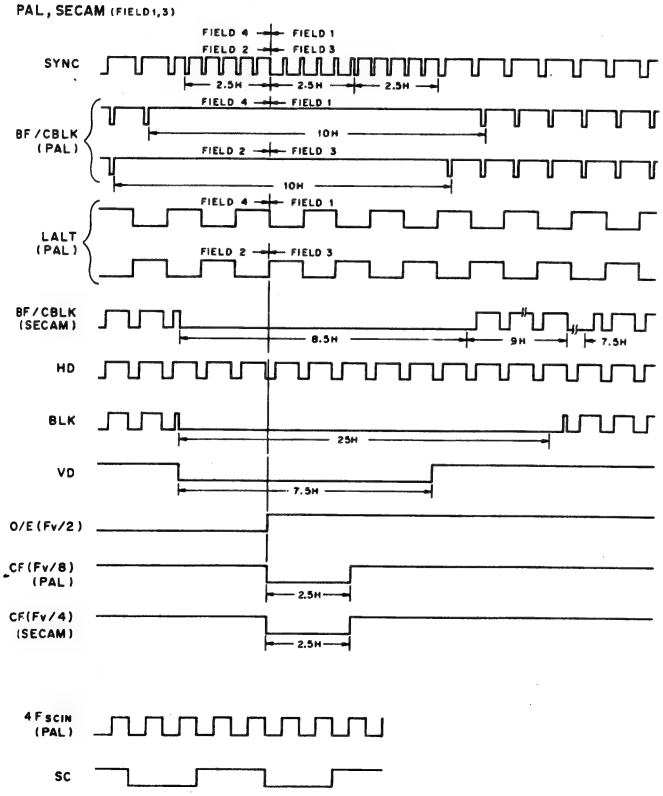
PAL, SECAM (FIELD 4, 2)



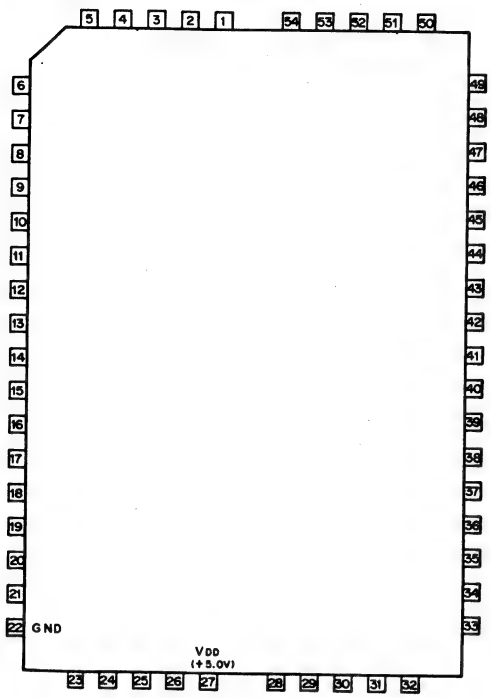
P: PAL, SECAM
N: NTSC, PALM

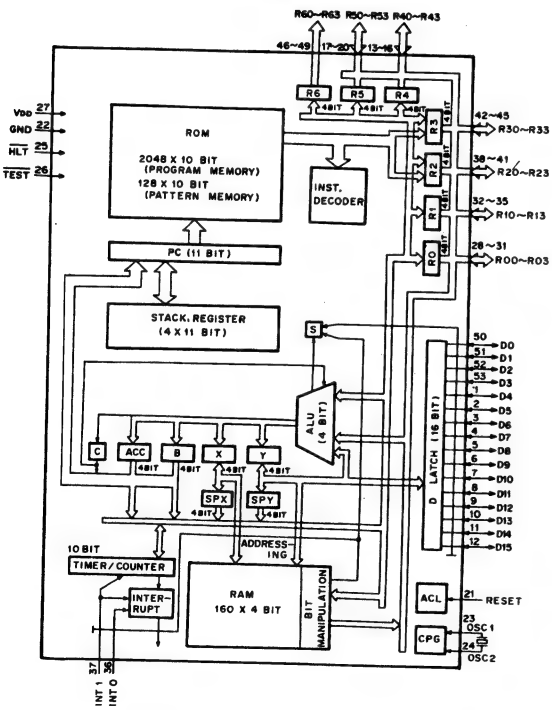


PAL, SECAM (FIELD 1, 3)

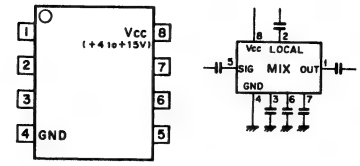


HD44820A89 (HITACHI) FLAT PACKAGE
C-MOS 4-BIT MICROPROCESSOR
— TOP VIEW —

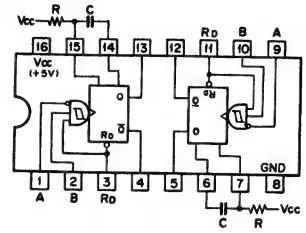




SN16913P (TI)
BALANCED MIXER
— TOP VIEW —



SN74LS221NS (TI) FLAT PACKAGE
TTL MONOSTABLE MULTIVIBRATOR WITH SCHMITT TRIGGER INPUT
— TOP VIEW —

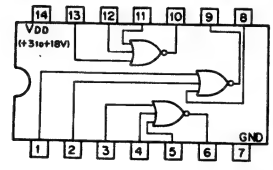


INPUTS			OUTPUTS	
RD	A	B	Q	$\overline{Q}$
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⊓	⊔
1	↓	1	⊓	⊔
↑	0	1	⊓	⊔

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

OUTPUT PULSE WIDTH = 0.7CR

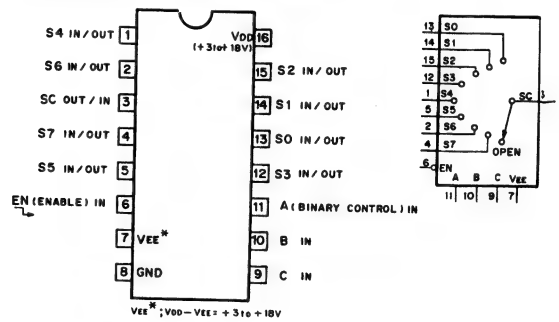
TC4025BF (TOSHIBA) FLAT PACKAGE
C-MOS 3-INPUT NOR GATE
— TOP VIEW —



A	B	C	Y
0	0	0	1
X	X	1	0
X	1	X	0
1	X	X	0

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

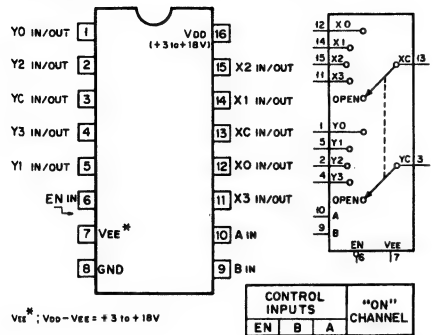
TC4051BF (TOSHIBA) FLAT PACKAGE
C-MOS 8-CHANNEL MULTIPLEXER/DEMULTIPLEXER
— TOP VIEW —



EN	C	B	A	"ON" CHANNEL
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	X	X	X	OPEN

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

TC4052BF (TOSHIBA) FLAT PACKAGE
C-MOS 4-CHANNEL MULTIPLEXER/DEMULTIPLEXER
— TOP VIEW —

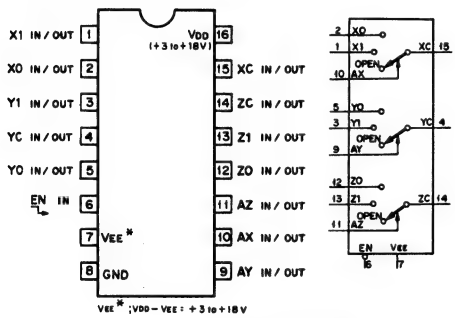


VEE* ; VDD − VEE = +3 to +18V

CONTROL INPUTS			"ON" CHANNEL
EN	B	A	
0	0	0	0
0	0	1	1
0	1	0	2
0	1	1	3
1	X	X	OPEN

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

TC4053BF (TOSHIBA) FLAT PACKAGE
C-MOS 2-CHANNEL MULTIPLEXER/DEMULTIPLEXER
— TOP VIEW —

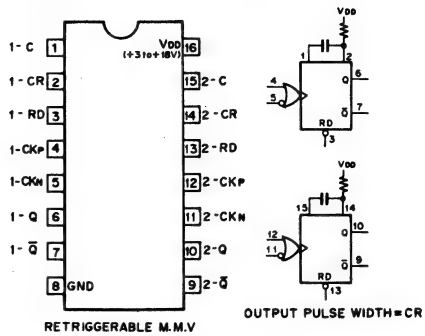


VEE* ; VDD − VEE = +3 to +18V

CONT. INPUTS		ON CHANNEL
EN	A (X,Y,Z)	
0	0	0
0	1	1
1	X	OPEN

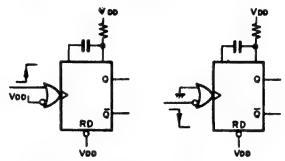
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

TC4538BF (TOSHIBA) FLAT PACKAGE
C-MOS DUAL RETRIGGERABLE/NON-RETRIGGERABLE
MONOSTABLE MULTIVIBRATOR
— TOP VIEW —

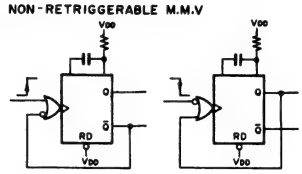


RETRIGGERABLE M.M.V

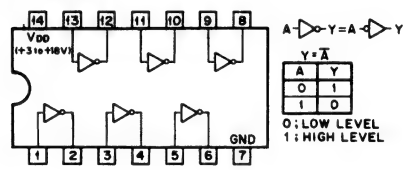
OUTPUT PULSE WIDTH = CR



NON-RETRIGGERABLE M.M.V



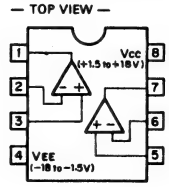
TC4069UBF (TOSHIBA) FLAT PACKAGE
C-MOS INVERTER
— TOP VIEW —



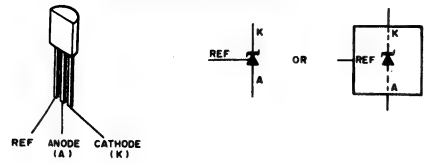
A	Y
0	1
1	0

0; LOW LEVEL
1; HIGH LEVEL

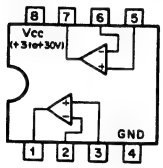
TL062CPS (TI) FLAT PACKAGE
OPERATIONAL AMPLIFIER
(JFET INPUT)
— TOP VIEW —



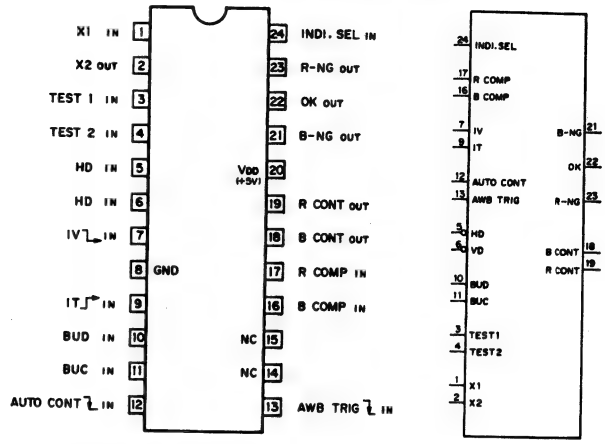
TL431CLP (TI)
TL431CLPB (TI)
ADJUSTABLE PRECISION SHUNT REGULATOR



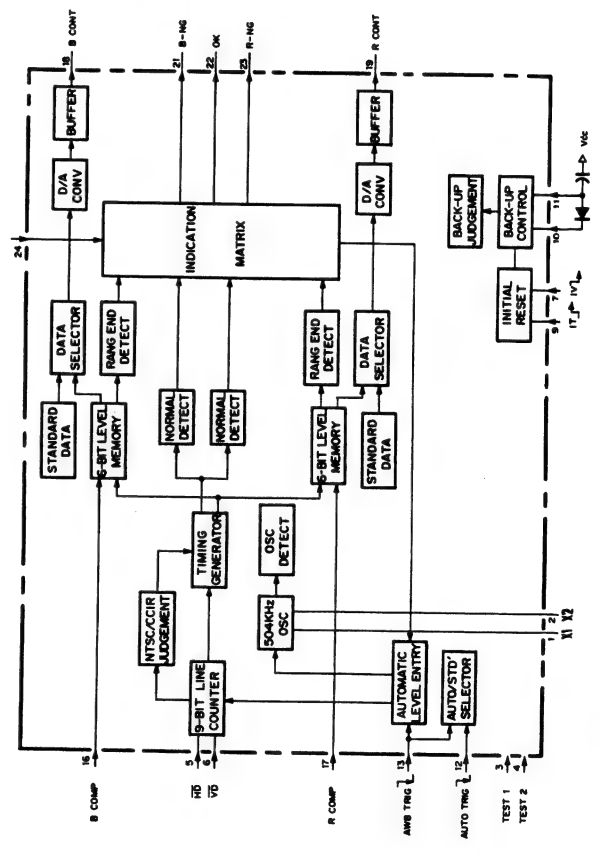
uPC358G2 (NEC) FLAT PACKAGE
DUAL OPERATIONAL AMPLIFIERS
— TOP VIEW —



uPD6107G (NEC)
C-MOS AUTOMATIC WHITE BALANCE CONTROLLER FOR COLOR CAMERA
— TOP VIEW —



IV ; INITIAL RESET VOLTAGE
IT ; INITIAL RESET TIME CONSTANT
BUD ; BACK-UP DIODE
BUC ; BACK-UP CAPACITOR



SECTION 8
SPARE PARTS

8-1. PARTS INFORMATION

1. Safety Related Component Warning

Components identified by shading marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose parts numbers appear as shown in this manual or in service bulletins and service manual supplements published by Sony.

2. Replacement Parts supplied from Sony Parts Center will sometimes have different shape and outside view from the parts which actually in use. This is due to **"accommodating the improved parts and/or engineering changes"** or **"standardization of genuine parts."**

   - This manual's exploded views and electrical spare parts lists are indicating the parts numbers of "the standardized genuine parts at present".
   - Regarding engineering parts changes in our engineering department, refer Sony service bulletins and service manual supplements.

3. **Printed Components in Bold-Face type** on the exploded views and electrical spare parts list are normally stocked for replacement purposes. The remaining parts are not normally required for routine service work. Orders for parts not shown in Bold-Face type will be processed, but allow for additional delivery time.

4. Item with no part number and/or no description are not stocked because they are seldom required for routine service.

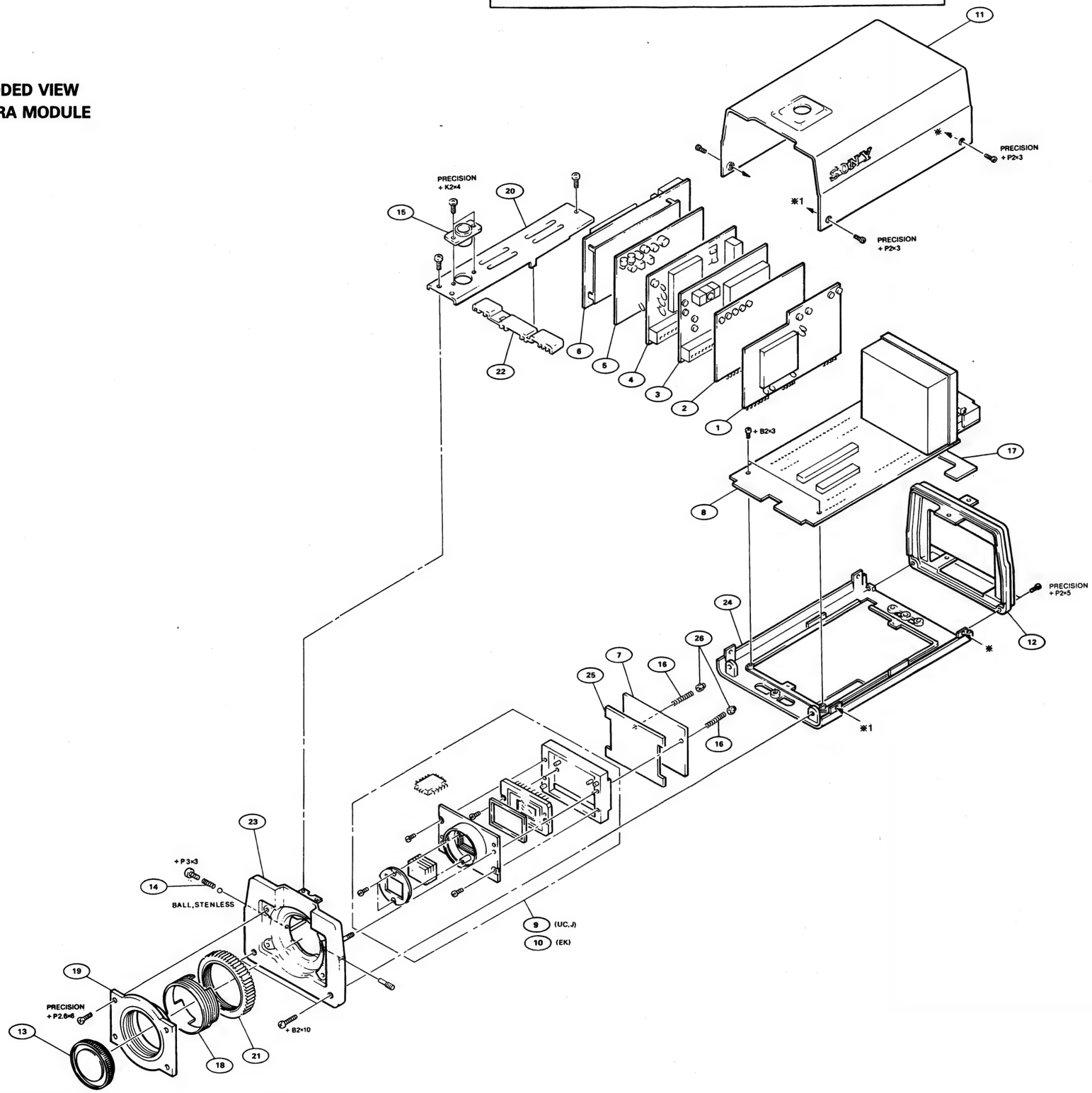
5. **Abbreviation**

REF. NO.	DESCRIPTION	REF. NO.	DESCRIPTION	REF. NO.	DESCRIPTION
C	CAPACITOR	**F**	FUSE	**Q**	TRANSISTOR
CN	CONNECTOR	**FL**	FILTER	**R**	RESISTOR
D	DIODE	**IC**	IC	**RV**	VARIABLE RESISTOR
DL	DELAY LINE	**L**	INDUCTOR	**S**	SWITCH
				X	OSCILLATOR

All capacitors are in micro farads unless otherwise specified.
All inductors are in micro henries unless otherwise specified.
All resistors are in ohms.

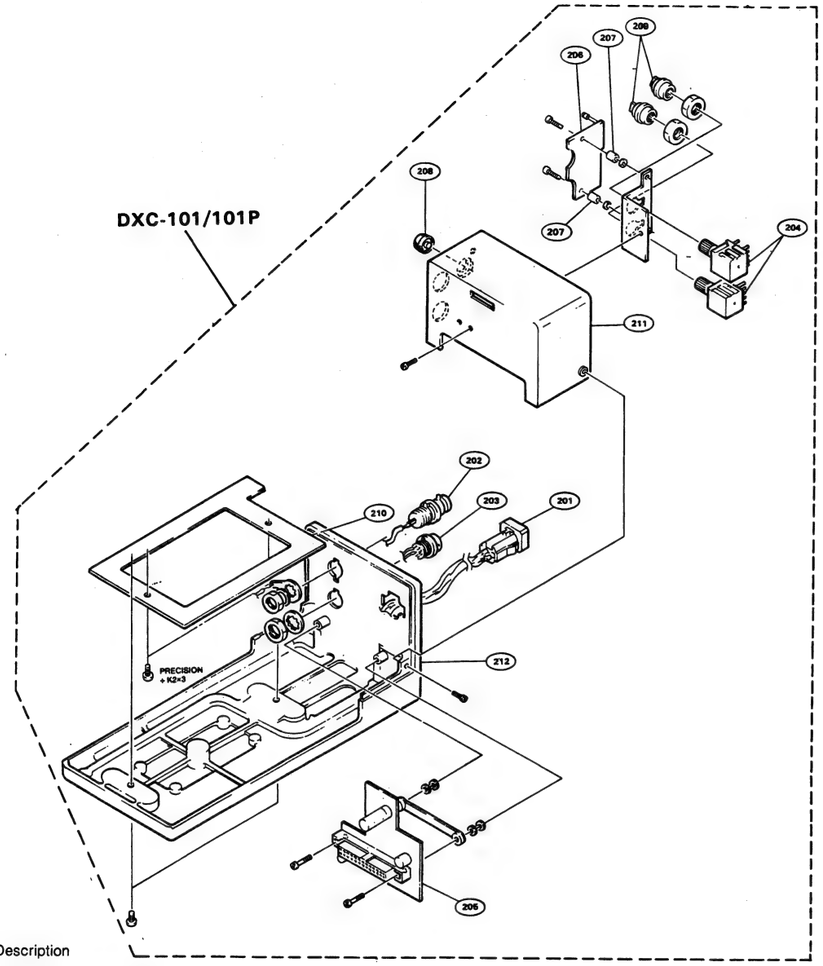
8-2. EXPLODED VIEW
CAMERA MODULE

CAMERA MODURE CAMERA MODULE

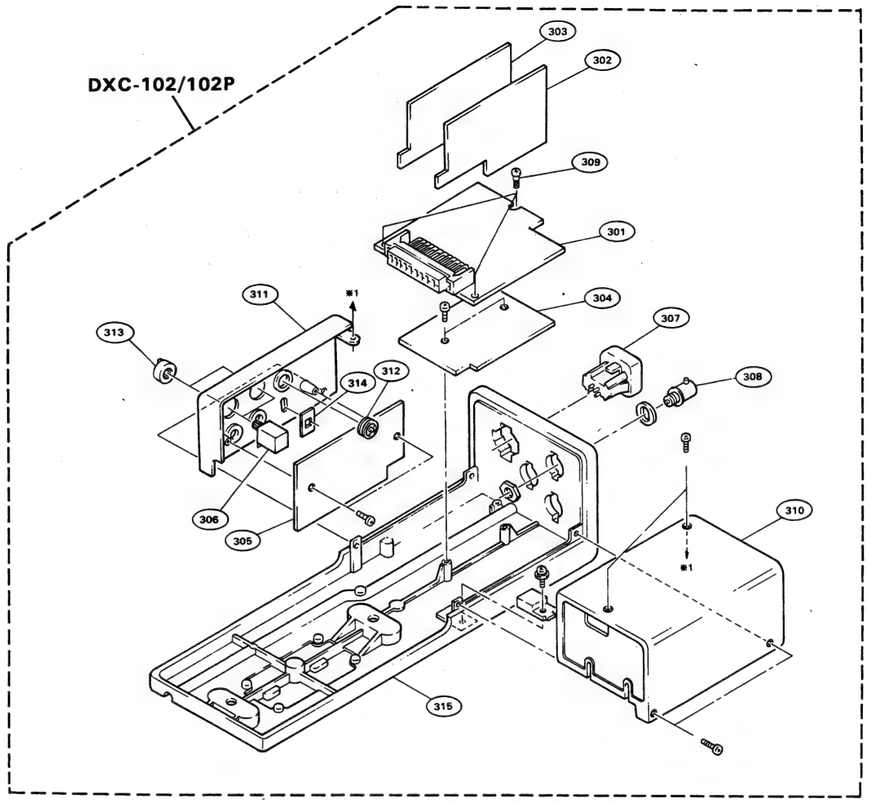


No.	Parts No.	Description
1	A-7513-323-A	MOUNTED CIRCUIT BORAD ''RP-72''
2	A-7513-324-A	MOUNTED CIRCUIT BORAD ''AT-40''
3	A-7513-325-A	MOUNTED CIRCUIT BORAD ''MD-30'' (UC, J)
	A-7513-326-A	MOUNTED CIRCUIT BORAD ''MD-30'' (EK)
4	A-7513-327-A	MOUNTED CIRCUIT BORAD ''EN-40'' (UC, J)
	A-7513-328-A	MOUNTED CIRCUIT BORAD ''EN-40'' (EK)
5	A-7513-329-A	MOUNTED CIRCUIT BORAD ''RG-13'' (UC, J)
	A-7513-330-A	MOUNTED CIRCUIT BORAD ''RG-13'' (EK)
6	A-7513-331-A	MOUNTED CIRCUIT BORAD ''PG-12'' (UC, J)
	A-7513-332-A	MOUNTED CIRCUIT BORAD ''PG-12'' (EK)
7	A-7520-231-A	MOUNTED CIRCUIT BORAD ''BI-3''
8	A-7520-233-A	MOUNTED CIRCUIT BORAD ''MB-37'' (UC, J)
	A-7520-234-A	MOUNTED CIRCUIT BORAD ''MB-37'' (EK)
9	**A-7560-026-A**	**CCD BLOCK ASSY (UC, J)**
10	**A-7560-027-A**	**CCD BLOCK ASSY (EK)**
11	**X-3698-801-1**	**COVER ASSY**
12	**X-3698-802-1**	**PANEL ASSY, REAR**
13	**2-042-385-00**	**CAP, C MOUNT**
14	**3-563-463-00**	**SPRING, COMPRESSION**
15	3-670-518-01	SCREW, TRIPOD
16	3-698-802-01	SPRING, COMPRESSION
17	3-698-805-02	SHEET, INSULATING, MB
18	3-698-810-01	RING, SLIDE
19	3-698-811-01	MOUNT, LENS
20	3-698-813-02	SPAN
21	3-698-814-01	RING, ADJUSTMENT
22	3-698-819-01	HOLDER, PC BOARD
23	3-698-840-01	PANEL, FRONT
24	3-698-842-01	CHASSIS
25	3-698-806-02	SHEET, INSULATING, CCD HOLDER
26	**3-698-829-01**	**NUT**

ADAPTOR ASSY



No.	Parts No.	Description
201	**1-563-113-11**	**RECEPTACLE, LENS**
202	**1-561-781-21**	**RECEPTACLE, BNC**
203	**1-562-381-00**	**RECEPTACLE, 12P**
204	**1-570-505-11**	**ROTARY, SWITCH**
⚠ 205	1-617-217-11	PRINTED CIRCUIT BOARD ''CN-39''
206	1-617-218-11	PRINTED CIRCUIT BOARD ''SW-33''
207	**3-569-418-01**	**GUAIDE, BOTTON**
208	**3-676-244-01**	**COVER, SWITCH**
209	**3-698-809-01**	**KNOB**
210	3-698-834-01	PLATE, CHASSIS
211	3-698-837-01	COVER(A), ADAPTOR
212	3-698-843-02	ADAPTOR (A)



No.	Part No.	Description
301	A-7513-329-A	MOUNTED CIRCUIT BORAD ''MB-38'' (UC)
	A-7513-350-A	MOUNTED CIRCUIT BOARD ''MB-38'' (EK)
302	A-7513-351-A	MOUNTED CIRCUIT BORAD ''RM-32''
303	A-7513-352-A	MOUNTED CIRCUIT BORAD ''SG-38'' (UC)
	A-7513-353-A	MOUNTED CIRCUIT BOARD ''SG-38'' (EK)
304	A-7513-354-A	MOUNTED CIRCUIT BORAD ''SG-110''
305	A-7513-355-A	MOUNTED CIRCUIT BORAD ''SW-34''
306	**1-570-505-11**	**ROTARY, SWITCH**
307	**1-563-113-11**	**CONNECTOR, LENS**
308	**1-561-781-11**	**BNC, CONNECTOR**
309	**3-312-161-00**	**SCREW, STEP, PRECISION**
310	**3-698-863-01**	**COVER,ADAPTOR(R)**
311	**3-698-864-02**	**COVER,ADAPTOR(L)**
312	3-676-244-01	COVER, SW
313	3-689-809-01	KNOB
314	3-680-604-11	PLATE, BLIND
315	**3-698-865-01**	**ADAPTOR (B)**

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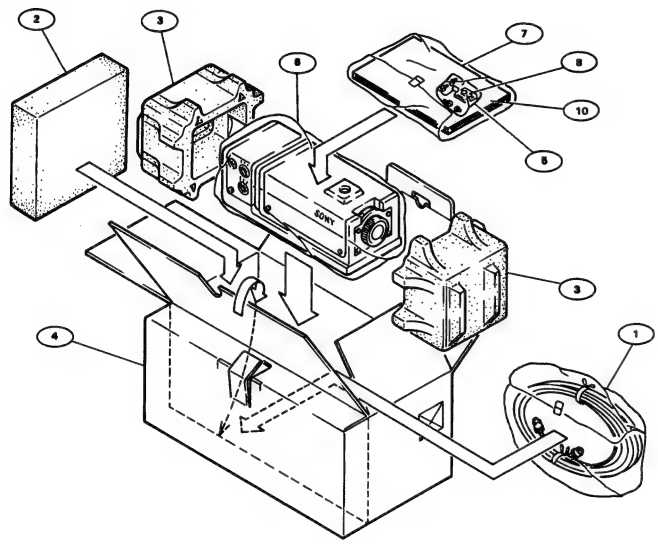
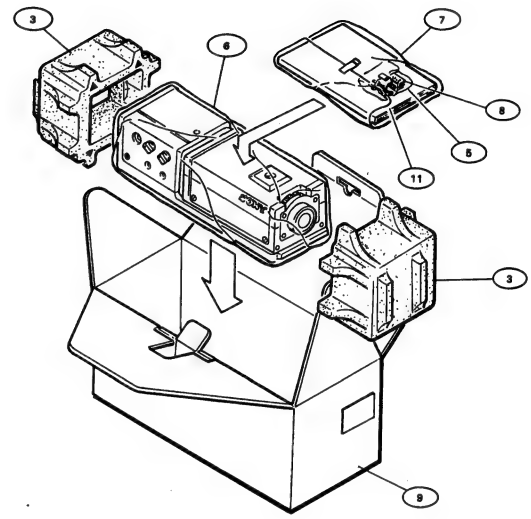
8-3. PACKING MATERIAL AND ACCESSORIES

DXC-101/101P



DXC-102/102P



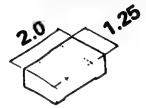
No.	Parts No.	Description
1	**1-557-668-12**	**CABLE, DC 4P**
	1-560-246-11	**RECEPTACLE 4P**
	1-562-356-00	**RECEPTACLE 12P**
2	3-698-847-01	SPACER (DXC-101/P)
3	3-698-850-01	CUSHION
4	3-698-851-01	CARTON INDIVIDUAL (UC)
	3-698-851-11	CARTON INDIVIDUAL (EK)
5	**3-701-613-00**	**BAG, POLYETHYLENE (STOPPER, SCREW)**
6	**3-701-626-00**	**BAG, POLYETHYLENE (DXC-101/P)**
	3-701-631-01	BAG, POLYETHYLENE (DXC-102/P)
7	**3-701-626-00**	**BAG, POLYETHYLENE (PRINTED MATTER)**
8	3-698-830-01	STOPER
	7-621-772-00	**SCREW + B2 x 3**
9	3-698-854-01	CARTON INDIVIDUAL (UC)
	3-698-854-11	CARTON INDIVIDUAL (EK)
10	3-760-863-11	MANUAL, INSTRUCTION (DXC-101/P)
	3-760-863-31	**MANUAL, INSTRUCTION (DXC-101/P)**
	3-760-863-41	**MANUAL, INSTRUCTION (EK) (DXC-101/P)**
11	**3-760-924-11**	**MANUAL, INSTRUCTION (DXC-102/P)**
	3-760-924-31	**MANUAL, INSTRUCTION (DXC-102/P)**
	3-760-924-41	**MANUAL, INSTRUCTION (DXC-102/P)**

8-4. ELECTRICAL PARTS LIST

RESISTOR

Parts that are not listed in the "reference numbers order list" are shown in following table.
Reference numbers are omitted.

CHIP RESISTOR



±5% 1/10W
0Ω through 3.3MΩ

Parts No. 1-216-□□□-00

Value	Parts No. – □□□ –
0Ω	295
1Ω	—
1.1	—
1.2	—
1.3	—
1.5	—
1.6	—
1.8	—
2	—
2.2	298
2.4	301
2.7	302
3	303
3.3	304
3.6	305
3.9	306
4.3	307
4.7	308
5.1	297
5.6	309
6.2	310
6.8	311
7.5	312
8.2	313
9.1	314
10Ω	001
11	002
12	003
13	004
15	005
16	006
18	007
20	008
22	009
24	010
27	011

Value	Parts No. – □□□ –
30	012
33Ω	013
36	014
39	015
43	016
47	017
51	018
56	019
62	020
68	021
75	022
82	023
91	024
100Ω	025
110	026
120	027
130	028
150	029
160	030
180	031
200	032
220	033
240	034
270	035
300	036
330	037
360	038
390	039
430	040
470	041
510	042
560	043
620	044
680	045
750	046
820	047

Value	Parts No. – □□□ –
910	048
1kΩ	049
1.1	050
1.2	051
1.3	052
1.5	053
1.6	054
1.8	055
2	056
2.2	057
2.4	058
2.7	059
3	060
3.3	061
3.6	062
3.9	063
4.3	064
4.7	065
5.1	066
5.6	067
6.2	068
6.8	069
7.5	070
8.2	071
9.1	072
10kΩ	073
11	074
12	075
13	076
15	077
16	078
18	079
20	080
22	081
24	082
27	083

Value	Parts No. – □□□ –
30	084
33kΩ	085
36	086
39	087
43	088
47	089
51	090
56	091
62	092
68	093
75	094
82	095
91	096
100kΩ	097
110	098
120	099
130	100
150	101
160	102
180	103
200	104
220	105
240kΩ	106
270	107
300	108
330	109
360	110
390	111
430	112
470	113
510	114
560	115
620	116
680	117
750	118
820	119

Value	Parts No. – □□□ –
910	120
1MΩ	121
1.1	122
1.2	123
1.3	124
1.5	125
1.6	126
1.8	127
2	128
2.2	129
2.4	130
2.7	131
3	132
3.3	133

AT-40 BOARD

Ref. No.	Part No.	Description
	A-7513-324-A	MOUNTED CIRCUIT BOARD "AT-40"
C1	1-135-091-00	TANTALUM CHIP 1 10% 16V
C2	1-135-096-21	TANTALUM CHIP 4.7 10% 10V
C4	1-135-095-21	TANTALUM CHIP 1.5 10% 10V
C5	1-135-097-00	TANTALUM CHIP 15 10% 10V
C6	1-135-072-21	TANTALUM CHIP 0.22 10% 35V
C7	1-135-096-21	TANTALUM CHIP 4.7 10% 10V
C8	1-163-038-00	CERAMIC CHIP 0.1 25V
C9	1-135-096-21	TANTALUM CHIP 4.7 10% 10V
C10	1-163-038-00	CERAMIC CHIP 0.1 25V
C11	1-163-141-00	CERAMIC CHIP 0.001 5% 50V
C12	1-163-038-00	CERAMIC CHIP 0.1 25V
C13	1-163-038-00	CERAMIC CHIP 0.1 25V
C14	1-163-038-00	CERAMIC CHIP 0.1 25V
C15	1-163-038-00	CERAMIC CHIP 0.1 25V
C16	1-163-038-00	CERAMIC CHIP 0.1 25V
C17	1-135-096-21	TANTALUM CHIP 4.7 10% 10V
C18	1-135-093-21	TANTALUM CHIP 10 20% 16V
C19	1-163-141-00	CERAMIC CHIP 0.001 5% 50V
C20	1-163-141-00	CERAMIC CHIP 0.001 5% 50V
C21	1-163-141-00	CERAMIC CHIP 0.001 5% 50V
C22	1-163-038-00	CERAMIC CHIP 0.1 25V
C23	1-163-251-00	CERAMIC CHIP 100PF 5% 50V
C24	1-163-038-00	CERAMIC CHIP 0.1 25V
C27	1-163-141-00	CERAMIC CHIP 0.001 5% 50V
C28	1-135-070-00	TANTALUM CHIP 0.1 20% 35V
D3	8-719-100-03	1S2835
D4	8-719-100-05	1S2837
IC1	8-759-908-12	CX20056: SONY
IC2	8-759-103-03	μPD6107G: NEC

Ref. No.	Part No.	Description
Q1	8-729-901-04	DTA114EK
Q2	8-729-100-66	2SC1623
Q6	8-729-100-76	2SA812
Q7	8-729-100-76	2SA812
Q8	8-729-100-66	2SC1623
Q9	8-729-100-76	2SA812
Q10	8-729-100-76	2SA812
Q11	8-729-100-76	2SA812
Q12	8-729-100-66	2SC1623
Q13	8-729-100-66	2SC1623
Q15	8-729-900-00	DTA144WK
Q16	8-729-901-03	DTC144WK
R58	1-249-437-11	CARBON 47K 5% 1/6W (UC: DXC-101 S/N Up to 10220 DXC-102 S/N Up to 10180 EK: DXC-101P S/N Up to 10260 DXC-102P S/N Up to 10310)
	1-216-089-00	CHIP 47K 5% 1/10W (UC: DXC-101 S/N 10221 AND HIGHER DXC-102 S/N 10181 AND HIGHER EK: DXC-101P S/N 10261 AND HIGHER DXC-102P S/N 10311 AND HIGHER)
RV1	1-230-871-21	METAL 22K
RV2	1-230-870-21	METAL 10K
RV3	1-230-870-21	METAL 10K
RV4	1-230-868-21	METAL 2.2K
RV5	1-230-870-21	METAL 10K

Ref. No.	Part No.	Description
BI-3 BOARD		
	A-7520-231-A	MOUNTED CIRCUIT BOARD "BI-3"
C1	**1-135-083-00**	**TANTALUM CHIP 0.47 10% 25V**
C2	**1-135-083-00**	**TANTALUM CHIP 0.47 10% 25V**
C3	**1-135-074-21**	**TANTALUM CHIP 0.47 10% 35V**
C4	**1-135-103-00**	**TANTALUM CHIP 3.3 10% 4V**
C5	**1-135-074-21**	**TANTALUM CHIP 0.47 10% 35V**
C6	**1-135-083-00**	**TANTALUM CHIP 0.47 10% 25V**
C7	**1-163-013-00**	**CERAMIC CHIP 0.0022 10% 50V**
Q1	**8-729-175-73**	**2SC2757**

Ref. No.	Part No.	Description
EN-40 BOARD		
	A-7513-327-A	MOUNTED CIRCUIT BOARD "EN-40" (UC,J)
	A-7513-328-A	MOUNTED CIRCUIT BOARD "EN-40" (EK)
C1	**1-131-380-00**	**TANTALUM 33 10% 10V**
C2	**1-131-374-00**	**TANTALUM 33 10% 16V**
C3	**1-124-225-00**	**ELECT 100 20% 6.3V**
C4	**1-163-038-00**	**CERAMIC CHIP 0.1 25V**
C5	**1-163-097-00**	**CERAMIC CHIP 15PF 5% 50V**
C6	**1-131-373-00**	**TANTALUM 22 10% 16V**
C7	**1-131-380-00**	**TANTALUM 33 10% 10V**
C8	**1-163-021-00**	**CERAMIC CHIP 0.01 10% 50V**
C9	**1-163-038-00**	**CERAMIC CHIP 0.1 25V**
C10	**1-131-377-00**	**TANTALUM 10 10% 10V**
C11	**1-163-038-00**	**CERAMIC CHIP 0.1 25V**
C12	**1-163-038-00**	**CERAMIC CHIP 0.1 25V**
C13	**1-163-119-00**	**CERAMIC CHIP 120PF 5% 50V**
C14	**1-163-119-00**	**CERAMIC CHIP 120PF 5% 50V**
C15	**1-163-119-00**	**CERAMIC CHIP 120PF 5% 50V**
C16	**1-163-038-00**	**CERAMIC CHIP 0.1 25V**
C17	**1-163-129-00**	**CERAMIC CHIP 330PF 5% 50V (EK) (DXC-101P S/N 10061 AND HIGHER DXC-102P S/N 10011 AND HIGHER)**
CN1	1-561-770-00	RECEPTACLE, 30P MALE
CN2	1-564-012-00	RECEPTACLE, 2P MALE
D1	**8-719-100-05**	**1S2837**
D2	**8-719-104-24**	**1S2835**
D3	**8-719-100-05**	**1S2837**
DL1	**1-415-463-11**	**150nS**

Ref. No.	Part No.	Description
FL1	**1-235-277-00**	**BAND PASS 3.58MHz (UC,J)**
FL1	**1-235-439-11**	**BAND PASS 4.43MHz (EK)**
IC1	**8-759-969-13**	**SN16913P: TI**
IC2	**1-807-384-11**	**BH1205: SONY**
Q1	**8-729-100-66**	**2SC1623**
Q2	**8-729-100-66**	**2SC1623**
Q3	**8-729-100-66**	**2SC1623**
Q4	**8-729-100-66**	**2SC1623**
Q5	**8-729-100-76**	**2SA812**
Q6	**8-729-109-44**	**2SK94**
Q7	**8-729-100-76**	**2SA812**
Q8	**8-729-100-66**	**2SC1623**
RV1	**1-230-868-11**	**METAL 2.2 K**

LE-47 BOARD

	1-617-767-11	PRINTED CIRCUIT BOARD "LE-47A" (DXC-101/101P)
	1-617-767-21	PRINTED CIRCUIT BOARD "LE-47B" (DXC-102/102P)
C1	**1-163-035-00**	**CERAMIC CHIP 0.047 50V**
C2	**1-163-035-00**	**CERAMIC CHIP 0.047 50V**
C3	**1-163-141-00**	**CERAMIC CHIP 0.001 5% 50V**

Ref. No.	Part No.	Description

MB-37 BOARD

	A-7520-233-A	MOUNTED CIRCUIT BOARD "MB-37" (UC,J)
	A-7520-234-A	MOUNTED CIRCUIT BOARD "MB-37" (EK)
C1	**1-135-093-21**	**TANTALUM CHIP 10 10% 16V**
C2	**1-135-093-21**	**TANTALUM CHIP 10 10% 16V**
C3	**1-163-101-00**	**CERAMIC CHIP 22PF 5% 50V (UC) (DXC-101 S/N Up to 11180 / DXC-102 S/N Up to 10710)**
	1-163-109-00	**CERAMIC CHIP 47PF 5% 50V (UC) (DXC-101 S/N 11181 AND HIGHER / DXC-102 S/N 10711 AND HIGHER)**
	1-163-248-11	**CERAMIC CHIP 75PF 5% 50V (EK)**
C4	**1-163-101-00**	**CERAMIC CHIP 22PF 5% 50V**
C5	**1-163-101-00**	**CERAMIC CHIP 22PF 5% 50V**
C6	**1-131-374-00**	**ELECT 33 10% 16V**
C7	**1-163-034-00**	**CERAMIC CHIP 0.033 50V**
C8	**1-135-100-21**	**TANTALUM CHIP 6.8 10% 6.3V**
C9	**1-163-038-00**	**CERAMIC CHIP 0.1 25V**
C10	**1-163-038-00**	**CERAMIC CHIP 0.1 25V**
C11	**1-102-112-00**	**CERAMIC 330PF 10% 50V**
C12	**1-102-112-00**	**CERAMIC 330PF 10% 50V (EK)**
CN1	1-564-851-11	RECEPTACLE, 50P MALE
CN2	1-564-001-11	RECEPTACLE, 2P MALE
	1-562-147-11	PLUG HOUSING 2P
	1-564-026-00	PLUG CONTACT
CN3	1-564-862-11	RECEPTACLE, 20P MALE
CN4	1-564-867-11	RECEPTACLE, 30P MALE
CN5	1-564-858-11	RECEPTACLE, 2P MALE
CN6	1-564-858-11	RECEPTACLE, 2P MALE
CN7	**1-562-372-00**	**RECEPTACLE, 2P FEMALE**
CN8	**1-562-372-00**	**RECEPTACLE, 2P FEMALE**
PU1	**1-464-580-11**	**CONVERTER, DC-DC UNIT**

Ref. No.	Part No.	Description
Q1	8-729-100-76	2SA812
Q2	8-769-401-84	3SK163-4
	UC: DXC-101 S/N Up to 10220	
	DXC-102 S/N Up to 10030	
	EK: DXC-101P S/N Up to 10060	
	DXC-102P S/N Up to 10010	
	8-769-401-67	3SK163-1
	UC: DXC-101 S/N 10221 AND HIGHER	
	DXC-102 S/N 10031 AND HIGHER	
	EK: DXC-101P S/N 10061 AND HIGHER	
	DXC-102P S/N 10011 AND HIGHER	
Q3	8-729-100-66	2SC1623
Q4	8-729-100-76	2SA812
Q5	8-769-401-84	3SK163-4
	UC: DXC-101 S/N Up to 10220	
	DXC-102 S/N Up to 10030	
	EK: DXC-101P S/N Up to 10060	
	DXC-102P S/N Up to 10010	
	8-769-401-67	3SK163-1
	UC: DXC-101 S/N 10221 AND HIGHER	
	DXC-102 S/N 10031 AND HIGHER	
	EK: DXC-101P S/N 10061 AND HIGHER	
	DXC-102P S/N 10011 AND HIGHER	
Q6	8-729-109-44	2SK94
Q7	8-729-100-76	2SA812
Q8	8-769-401-84	3SK163-4
	UC: DXC-101 S/N Up to 10220	
	DXC-102 S/N Up to 10030	
	EK: DXC-101P S/N Up to 10060	
	DXC-102P S/N Up to 10010	
	8-769-401-67	3SK163-1
	UC: DXC-101 S/N 10221 AND HIGHER	
	DXC-102 S/N 10031 AND HIGHER	
	EK: DXC-101P S/N 10061 AND HIGHER	
	DXC-102P S/N 10011 AND HIGHER	
Q9	8-729-109-44	2SK94
Q10	8-729-100-66	2SC1623
Q11	8-729-100-66	2SC1623
Q12	8-729-100-66	2SC1623
Q13	8-729-100-66	2SC1623
Q14	8-729-100-66	2SC1623
Q15	8-729-100-66	2SC1623
Q16	8-729-100-66	2SC1623
Q17	8-729-100-76	2SA812
Q18	8-729-100-76	2SA812
Q19	8-729-100-76	2SA812
Q20	8-729-100-76	2SA812
Q21	8-729-100-76	2SA812
R48	1-215-493-00	CARBON 1M 5% 1/4W (UC)
	DXC-101 S/N 10221 AND HIGHER	
	DXC-102 S/N 10031 AND HIGHER	
R48	1-215-491-00	CARBON 820K 5% 1/4W (EK)
	DXC-101P S/N 10061 AND HIGHER	
	DXC-102P S/N 10011 AND HIGHER	

Ref. No.	Part No.	Description

MD-30 BOARD

	A-7513-325-A	MOUNTED CIRCUIT BOARD "MD-30" (UC,J)
	A-7513-326-A	MOUNTED CIRCUIT BOARD "MD-30" (EK)
C1	1-131-375-00	TANTALUM 4.7 10% 10V
C2	1-131-374-00	TANTALUM 33 10% 16V
C3	1-163-038-00	CERAMIC CHIP 0.1 25V
C4	1-163-101-00	CERAMIC CHIP 22PF 5% 50V
C5	1-163-101-00	CERAMIC CHIP 22PF 5% 50V
C6	1-163-101-00	CERAMIC CHIP 22PF 5% 50V
C7	1-163-101-00	CERAMIC CHIP 22PF 5% 50V
C8	1-163-101-00	CERAMIC CHIP 22PF 5% 50V
C9	1-131-357-00	TANTALUM 4.7 10% 25V
C10	1-163-101-00	CERAMIC 22PF 5% 50V
C11	1-163-038-00	CERAMIC CHIP 0.1 25V
CN1	1-563-114-11	RECEPTACLE, 20P MALE
FL1	1-235-394-11	LOW PASS 4.773MHz (UC,J)
FL1	1-235-442-11	LOW PASS 0-25MHZ (EK)
IC1	8-759-908-15	TL431CLP: TI
IC2	1-807-385-11	BH1206: SONY
L1	1-408-399-00	MICRO 1.5
L2	1-408-409-00	MICRO 10
Q1	8-729-100-66	2SC1623
Q2	8-729-100-76	2SA812
Q3	8-729-100-66	2SC1623
Q4	8-729-100-66	2SC1623
Q5	8-729-102-76	2SA812
Q6	8-729-100-66	2SC1623
Q7	8-729-100-66	2SC1623
Q8	8-729-100-66	2SC1623
Q9	8-729-100-66	2SC1623
Q10	8-729-100-66	2SC1623
RV1	1-230-870-21	METAL 10K
RV2	1-230-870-21	METAL 10K
RV3	1-230-870-21	METAL 10K
RV4	1-230-870-21	METAL 10K
RV5	1-230-870-21	METAL 10K

Ref. No.	Part No.	Description
PR-72 BOARD		
	A-7513-323-A	MOUNTED CIRCUIT BOARD "PR-72"
C1	1-131-371-00	TANTALUM 10 10% 16V
C2	1-163-038-00	CERAMIC CHIP 0.1 25V
C3	1-163-038-00	CERAMIC CHIP 0.1 25V
C4	1-131-380-00	TANTALUM 33 10% 10V
C5	1-163-085-00	CERAMIC CHIP 2PF ±0.25PF 50V
C6	1-163-218-11	CERAMIC CHIP 1.5PF ±0.25PF 50V
C7	1-163-090-00	CERAMIC CHIP 7PF ±0.25PF 50V
C8	1-163-038-00	CERAMIC CHIP 0.1 25V
C9	1-131-347-00	TANTALUM 1 10% 35V
C10	1-163-038-00	CERAMIC CHIP 0.1 25V
C11	1-163-038-00	CERAMIC CHIP 0.1 25V
C12	1-135-101-21	TANTALUM CHIP 22 10% 6.3V
C13	1-131-371-00	TANTALUM 10 10% 16V
C14	1-131-371-00	TANTALUM 10 10% 16V
C15	1-135-101-21	TANTALUM CHIP 22 10% 6.3V
C16	1-135-101-21	TANTALUM CHIP 22 10% 6.3V (UC: DXC-101 S/N Up to 10120 DXC-102 S/N Up to 10180 EK: DXC-101P S/N Up to 10260 DXC-102P S/N Up to 10310)
C17	1-163-255-00	CERAMIC CHIP 150PF 5% 50V
C18	1-163-102-00	CERAMIC CHIP 24PF 5% 50V
C19	1-163-085-00	CERAMIC CHIP 2PF ±0.25PF 50V
C20	1-135-099-00	TANTALUM CHIP 2.2 10% 6.3V (UC: DXC-101 S/N Up to 10830 DXC-102 S/N Up to 10610 EK: DXC-101P S/N Up to 11080 DXC-102P S/N Up to 10920)
	1-135-101-21	TANTALUM CHIP 22 10% 6.3V (UC: DXC-101 S/N 10831 AND HIGHER DXC-102 S/N 10611 AND HIGHER EK: DXC-101P S/N 11081 AND HIGHER DXC-102P S/N 10921 AND HIGHER)
C21	1-124-444-00	ELECT 220 20% 6.3V (UC: DXC-101 S/N Up to 10830 DXC-102 S/N Up to 10610 EK: DXC-101P S/N Up to 11080 DXC-102P S/N Up to 10920)
C22	1-135-076-21	TANTALUM CHIP 1 10% 35V (UC: DXC-101 S/N 10831 AND HIGHER DXC-102 S/N 10611 AND HIGHER EK: DXC-101P S/N 11081 AND HIGHER DXC-102P S/N 10921 AND HIGHER)
C24	1-163-125-00	CERAMIC CHIP 220PF 5% 50V (UC: DXC-101 S/N 10831 AND HIGHER DXC-102 S/N 10611 AND HIGHER EK: DXC-101P S/N 11081 AND HIGHER DXC-102P S/N 10921 AND HIGHER)
C25	1-163-129-00	CERAMIC CHIP 330PF 5% 50V (UC: DXC-101 S/N 10831 AND HIGHER DXC-102 S/N 10611 AND HIGHER EK: DXC-101P S/N 11081 AND HIGHER DXC-102P S/N 10921 AND HIGHER)
D1	8-719-100-05	1S2837
IC1	8-759-201-00	TC4052BF: TOSHIBA
IC2	8-759-201-00	TC4052BF: TOSHIBA
IC3	8-759-100-94	μPC358G2: NEC
IC4	1-807-383-13	BH1204: SONY
Q1	8-729-100-66	2SC1623
Q2	8-729-100-66	2SC1623
Q3	8-729-100-66	2SC1623
Q4	8-729-109-44	2SK94
Q5	8-729-109-44	2SK94
Q6	8-729-100-66	2SC1623
Q7	8-729-100-66	2SC1623
Q8	8-729-100-66	2SC1623
Q9	8-729-100-66	2SC1623
Q10	8-729-100-66	2SC1623
Q11	8-729-100-66	2SC1623
Q12	8-729-109-44	2SK94
Q13	8-729-100-66	2SC1623
Q14	8-729-100-66	2SC1623 (UC: DXC-101 S/N 10221 AND HIGHER DXC-102 S/N 10181 AND HIGHER EK: DXC-101P S/N 10261 AND HIGHER DXC-102P S/N 10311 AND HIGHER)
R12	1-214-590-00	METAL 24K 1% 1/8W
R13	1-214-589-00	METAL 22K 1% 1/8W
R14	1-214-584-00	METAL 13K 1% 1/8W
R15	1-214-585-00	METAL 15K 1% 1/8W
R18	1-214-584-00	METAL 13K 1% 1/8W
R19	1-214-585-00	METAL 15K 1% 1/8W
R20	1-214-584-00	METAL 13K 1% 1/8W
R21	1-214-586-00	METAL 16K 1% 1/8W
RV1	1-230-870-21	METAL 10K
RV2	1-230-870-21	METAL 10K
RV3	1-230-870-21	METAL 10K
RV4	1-230-870-21	METAL 10K
RV5	1-230-870-21	METAL 10K
RV6	1-230-871-21	METAL 22K

Ref. No.	Part No.	Description
PG-12 BOARD		
	A-7513-331-A	MOUNTED CIRCUIT BOARD "PG-12" (UC,J)
	A-7513-332-A	MOUNTED CIRCUIT BOARD "PG-12" (EK)
C1	1-163-093-00	CERAMIC CHIP 10PF 5% 50V (UC,J)
C1	1-163-241-11	CERAMIC CHIP 39PF 5% 50V (EK)
C2	1-163-097-00	CERAMIC CHIP 15PF 5% 50V (UC,J)
C2	1-163-099-00	CERAMIC CHIP 18PF 5% 50V (EK)
C3	1-163-093-00	CERAMIC CHIP 10PF 5% 50V
C4	1-163-093-00	CERAMIC CHIP 10PF 5% 50V
C5	1-163-093-00	CERAMIC CHIP 10PF 5% 50V
C6	1-163-093-00	CERAMIC CHIP 10PF 5% 50V
C7	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C8	1-163-093-00	CERAMIC CHIP 10PF 5% 50V
C9	1-163-119-00	CERAMIC CHIP 120PF 10% 50V (UC,J)
C9	1-163-247-00	CERAMIC CHIP 68PF 5% 50V (EK)
C10	1-163-109-00	CERAMIC CHIP 47PF 5% 50V (UC,J)
C10	1-163-111-00	CERAMIC CHIP 56PF 5% 50V (EK)
C11	1-163-141-00	CERAMIC CHIP 0.001 5% 50V
C12	1-163-251-00	CERAMIC CHIP 100PF 5% 50V
C13	1-163-038-00	CERAMIC CHIP 0.1 25V
C14	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C15	1-163-141-00	CERAMIC CHIP 0.001 5% 50V
C16	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C17	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C18	1-163-105-00	CERAMIC CHIP 33PF 5% 50V (UC,J)
C19	1-163-109-00	CERAMIC CHIP 47PF 5% 50V (EK)
C20	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C21	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C22	1-163-038-00	CERAMIC CHIP 0.1 25V
C23	1-163-141-00	CERAMIC CHIP 0.001 5% 50V
C24	1-135-091-00	TANTALUM CHIP 1 10% 16V
C25	1-131-379-00	TANTALUM 22 10% 10V
C26	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C27	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C28	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C29	1-163-087-00	CERAMIC CHIP 4PF 0.25PF 50V (EK) (DXC-101P S/N Up to 12080 / DXC-102P S/N Up to 11070)
	1-163-101-00	CERAMIC CHIP 22PF 5% 50V (EK) (DXC-101P S/N 12081 AND HIGHER / DXC-102P S/N 11071 AND HIGHER)
C30	1-163-109-00	CERAMIC CHIP 47PF 5% 50V (EK)
C31	1-163-105-00	CERAMIC CHIP 33PF 5% 50V
C32	1-163-105-00	CERAMIC CHIP 33PF 5% 50V
C33	1-163-101-00	CERAMIC CHIP 22PF 5% 50V (UC,J)
C34	1-163-034-00	CERAMIC CHIP 0.033 50V
C35	1-135-093-21	TANTALUM CHIP 10 10% 16V
C36	1-131-345-00	TANTALUM CHIP 0.47 1% 35V
C38	1-163-263-00	CERAMIC CHIP 330PF 5% 50V
C39	1-163-038-00	CERAMIC CHIP 0.1 25V
C40	1-161-021-11	CERAMIC 0.047 10% 25V (EK)

Ref. No.	Part No.	Description
D1	8-719-100-05	1S2837
D2	8-719-100-05	1S2837
D3	8-719-100-05	1S2837
D4	8-719-100-03	1S2835
IC1	8-757-930-02	CX7930-1: SONY
IC2	1-807-382-11	BH1203: SONY
L1	1-408-399-00	MICRO 1.5
L2	1-408-399-00	MICRO 1.5
L3	1-408-728-21	CHIP 1
Q1	8-729-100-66	2SC1623
Q2	8-729-100-76	2SA812
Q3	8-729-122-63	2SA1226
Q4	8-729-102-06	2SC2223
R35	1-249-405-11	CARBON 100 1/4W (EK)
VCO1	1-567-549-11	28.63636MHz (UC,J)
VCO1	1-567-550-11	28.375MHz (EK)

Ref. No.	Part No.	Description
RG-13 BOARD		
	A-7513-329-A	MOUNTED CIRCUIT BOARD "RG-13" (UC,J)
	A-7513-330-A	MOUNTED CIRCUIT BOARD "RG-13" (EK)
C1	1-163-038-00	CERAMIC CHIP 0.1 25V
C2	1-124-247-00	ELECT 10 20% 35V
C3	1-163-038-00	CERAMIC CHIP 0.1 25V
C4	1-124-236-00	ELECT 47 20% 16V UC: DXC-101 S/N Up to 10220 DXC-102 S/N Up to 10180 EK: DXC-101P S/N Up to 10260 DXC-102P S/N Up to 10310
	1-124-584-00	ELECT 100 20% 10V UC: DXC-101 S/N 10221 AND HIGHER DXC-102 S/N 10181 AND HIGHER EK: DXC-101P S/N 10261 AND HIGHER DXC-102P S/N 10311 AND HIGHER
C5	1-163-038-00	CERAMIC CHIP 0.1 25V
C6	1-124-584-00	ELECT 100 20% 10V
C7	1-163-021-00	CERAMIC CHIP 0.01 10% 50V
C8	1-124-247-00	ELECT 10 20% 35V
C9	1-163-021-00	CERAMIC CHIP 0.01 10% 50V
C10	1-124-236-00	ELECT 47 20% 16V UC: DXC-101 S/N Up to 10220 DXC-102 S/N Up to 10180 EK: DXC-101P S/N Up to 10260 DXC-102P S/N Up to 10310
	1-124-584-00	ELECT 100 20% 10V UC: DXC-101 S/N 10221 AND HIGHER DXC-102 S/N 10181 AND HIGHER EK: DXC-101P S/N 10261 AND HIGHER DXC-102P S/N 10311 AND HIGHER
C11	1-163-021-00	CERAMIC CHIP 0.01 10% 50V
C12	1-124-584-00	ELECT 100 20% 10V
C13	1-131-371-00	TANTALUM 10 10% 16V
C14	1-163-141-00	CERAMIC CHIP 0.001 5% 50V (EK)
C15	1-135-093-21	TANTALUM CHIP 10 10% 16V (EK)
C16	1-135-097-21	TANTALUM CHIP 15 10% 10V (EK)
C17	1-163-021-00	CERAMIC CHIP 0.01 10% 50V
C18	1-163-021-00	CERAMIC CHIP 0.01 10% 50V (EK)
C19	1-125-373-11	DOUBLE LAYERS 0.022 5.5V
C20	1-163-038-00	CERAMIC CHIP 0.1 25V
C21	1-163-113-00	CERAMIC CHIP 68PF 5% 50V (EK)
IC1	8-759-200-81	TC4053BF: TOSHIBA
IC2	8-759-200-94	μPC358G2: NEC

Ref. No.	Part No.	Description
L1	1-408-409-00	MICRO 10
L2	1-408-417-21	MICRO 47
L3	1-408-417-21	MICRO 47
L4	1-408-416-00	MICRO 39 (EK)
Q1	8-729-100-76	2SA812
Q2	8-729-100-66	2SC1623
Q3	8-729-109-44	2SK94 (EK)
Q4	8-729-100-66	2SC1623
Q5	8-729-175-73	2SC2757
RV1	1-228-395-11	METAL 10K (UC,J)
RV1	1-228-395-00	METAL 10K (EK)
RV2	1-228-395-11	METAL 10K (UC,J)
RV2	1-228-395-00	METAL 10K (EK)
VC01	1-527-585-00	17.734475MHz (EK)
FRAME		
	A-7560-026-A	CCD ASSY (UC,J)
	A-7560-027-A	CCD ASSY (EK)
FIXTURE		
	J-6028-450-A	EXTENTION BOARD "EX-97"

Ref. No.	Part No.	Description

CN-39 BOARD

	1-617-217-11	PRINTED CIRCUIT BOARD • "CN-39"
C1	**1-124-143-00**	**ELECT 100 20% 16V**
C2	**1-131-379-00**	**TANTALUM 22 10% 10V**
C3	**1-131-377-00**	**TANTALUM 10 10% 10V**
C4	**1-124-139-00**	**ELECT 100 20% 10V**
C5	**1-163-021-00**	**CERAMIC CHIP 0.01 10% 50V**
C6	**1-124-473-11**	**ELECT 1000 20% 10V**
C7	**1-131-383-00**	**TANTALUM 10 10% 6.3V**
C8	**1-161-013-11**	**CERAMIC 0.01 10% 25V (UC: DXC-101 S/N Up to 10220 / EK: DXC-101P S/N Up to 10060)**
C8	**1-163-021-00**	**CERAMIC CHIP 0.01 10% 50V (UC: DXC-101 S/N 10221 AND HIGHER / EK: DXC-101P S/N 10061 AND HIGHER)**
CN1	1-562-715-11	RECEPTACLE, 50P FEMALE
D1	**8-719-100-03**	**1S2835**
D2	**8-719-100-05**	**1S2837**
⚠F1	**1-532-721-11**	**GLASS, TUBE 0.8A 125V**
IC1	**8-759-200-90**	**TC4538BF: TOSHIBA**
Q1	**8-729-100-76**	**2SA812**
Q2	**8-729-100-76**	**2SA812**
Q3	**8-729-109-44**	**2SK94**
Q4	**8-729-100-76**	**2SA812**
Q5	**8-729-100-76**	**2SA812**
Q6	**8-729-100-66**	**2SC1623**

Ref. No.	Part No.	Description

DC-28 BOARD

	1-617-768-12	PRINTED CIRCUIT BOARD "DC-28"
C1	**1-163-141-00**	**CERAMIC CHIP 0.001 5% 50V**

SW-33 BOARD

	1-617-218-11	PRINTED CIRCUIT BOARD "SW-33"
CN1	1-564-018-11	RECEPTACLE, 8P MALE
D1	**8-719-800-33**	**TLG102A**
D2	**8-719-100-03**	**1S2835**
D3	**8-719-100-03**	**1S2835**
Q1	**8-729-100-76**	**2SA812**
S1	**1-553-856-00**	**KEY BOARD**

FRAME

C1	**1-102-106-00**	**CERAMIC 100PF 10% 50V**
CN101	1-562-153-11	PLUG HOUSING 8P
	1-564-026-00	PLUG CONTACT
CN102	**1-563-113-11**	**RECEPTACLE, 4P MALE**
CN103	**1-561-781-21**	**RECEPTACLE, BNC**
CN104	**1-562-381-00**	**RECEPTACLE, 12P MALE**
CN200	1-562-147-11	PLUG HOUSING 2P
CN304	1-562-148-11	PLUG HOUSING 3P
	1-564-026-00	PLUG CONTACT
CN402	1-562-147-11	PLUG HOUSING 2P
	1-564-026-00	PLUG CONTACT
S101	**1-570-505-11**	**ROTARY**
S102	**1-570-505-11**	**ROTARY**

MB-38 BOARD

Ref. No.	Part No.	Description
	⚠A-7513-349-A	MOUNTED CIRCUIT BOARD "MB-38" (UC,J)
	⚠A-7513-350-A	MOUNTED CIRCUIT BOARD "MB-38" (EK)
C1	1-124-121-00	ELECT 100 20% 35V
C2	1-124-121-00	ELECT 100 20% 35V
C3	1-131-380-00	TANTALUM 33 10% 10V
C4	1-163-038-00	CERAMIC CHIP 0.1 25V
C5	1-163-038-00	CERAMIC CHIP 0.1 25V
C6	1-163-038-00	CERAMIC CHIP 0.1 25V
C7	1-163-117-00	CERAMIC CHIP 100PF 5% 50V (UC,J)
C7	1-163-099-00	CERAMIC CHIP 18PF 5% 50V (EK)
C8	1-124-912-11	ELECT 330 20% 50V
C9	1-124-140-00	ELECT 220 20% 10V
C10	1-163-113-00	CERAMIC CHIP 68PF 5% 50V (EK) (EK: DXC-102P S/N 10311 AND HIGHER)
C11	1-161-051-00	CERAMIC 0.01 10% 25V (UC,J)
CN1	1-564-853-11	RECEPTACLE, 50P MALE
CN2	1-564-001-00	RECEPTACLE, 2P MALE
	1-562-147-11	PLUG HOUSING 2P
	1-564-026-00	PLUG CONTACT
CN3	1-564-005-00	RECEPTACLE, 6P MALE
	1-562-151-11	PLUG HOUSING 6P
	1-564-026-00	PUG CONTACT
CN4	1-564-002-00	RECEPTACLE, 3P MALE
CN5	1-564-003-00	RECEPTACLE, 4P MALE
D1	8-719-100-03	1S2835
⚠ F1	1-532-721-11	GLASS TUBE 0.8A 125V
IC1	8-759-200-81	TC4053BF: TOSHIBA
IC2	8-741-134-00	BX1340: SONY
L1	1-421-843-11	MICRO 470
L3	1-408-423-00	MICRO 150 (UC,J)
L3	1-408-421-00	MICRO 100 (EK)
Q1	8-729-100-76	2SA812
Q2	8-729-178-55	2SC2785-E (UC: DXC-102 S/N Up to 10180 EK: DXC-102P S/N Up to 10310)
	8-729-271-22	2SC1623 (UC: DXC-102 S/N 10181 AND HIGHER EK: DXC-102P S/N 10310 AND HIGHER)
R11	1-247-855-11	CARBON 10 5% 1/6W
VCO1	1-527-478-00	14.31818MHz (UC,J)
VCO1	1-527-585-00	17.734475MHz (EK)

RM-32 BOARD

Ref. No.	Part No.	Description
	A-7513-351-A	MOUNTED CIRCUIT BOARD "RM-32"
C1	1-163-141-00	CERAMIC CHIP 0.001 5% 50V
C2	1-163-021-00	CERAMIC CHIP 0.01 10% 50V
C3	1-131-361-21	TANTALUM 2.2 20V (UC: DXC-102 S/N Up to 10180 EK: DXC-102P S/N Up to 10310)
	1-135-095-00	TANTALUM CHIP 1.5 10% 10V (UC: DXC-102 S/N 10181 AND HIGHER EK: DXC-102P S/N 10311 AND HIGHER)
C4	1-135-076-21	TANTALUM CHIP 1 10% 35V
C5	1-135-070-00	TANTALUM CHIP 0.1 10% 35V (UC: DXC-102 S/N Up to 10180 EK: DXC-102P S/N Up to 10310)
	1-135-076-21	TANTALUM CHIP 1 10% 35V (UC: DXC-102 S/N 10181 AND HIGHER EK: DXC-102P S/N 10311 AND HIGHER)
C6	1-135-093-21	TANTALUM CHIP 10 10% 16V
C7	1-135-093-21	TANTALUM CHIP 10 10% 16V
C8	1-135-093-21	TANTALUM CHIP 10 10% 16V
C9	1-163-021-00	CERAMIC CHIP 0.01 10% 50V
C10	1-135-076-21	TANTALUM CHIP 1 10% 35V
C11	1-131-347-21	TANTALUM CHIP 1 35V (UC: DXC-102 S/N Up to 10180 EK: DXC-102P S/N Up to 10310)
D1	8-719-100-05	1S2837 (UC: DXC-102 S/N Up to 10180 EK: DXC-102P S/N Up to 10310)
D2	8-719-100-05	1S2837
D3	8-719-100-03	1S2835
IC1	8-759-200-75	TC4025BF: TOSHIBA
IC2	8-759-200-82	TC4069UBF: TOSHIBA
IC3	8-759-300-40	HD44820A89: HITACHI
IC4	8-759-906-53	TL062CPS: TI
IC5	8-759-200-99	TC4051BF: TOSHIBA
Q1	8-729-100-66	2SC1623
Q2	8-729-100-76	2SA812
Q3	8-729-100-66	2SC1623 (UC: DXC-102 S/N Up to 10180 EK: DXC-102P S/N Up to 10310)
Q4	8-729-100-66	2SC1623
Q5	8-729-100-66	2SC1623
Q6	8-729-100-66	2SC1623
Q7	8-729-100-76	2SA812
Q8	8-729-100-66	2SC1623
Q9	8-729-100-76	2SA812
Q10	8-729-100-76	2SA812
Q11	8-729-100-66	2SC1623
R17	1-215-829-11	METAL 91K 1% 1/8W
R36	1-247-879-51	CARBON 100K 5% 1/6W (UC: DXC-102 S/N Up to 10180 EK: DXC-102P S/N Up to 10310)
RP1	1-231-387-00	25K

Ref. No.	Part No.	Description

SG-38 BOARD

	A-7513-352-A	MOUNTED CIRCUIT BOARD "SG-38" (UC,J)
	A-7513-353-A	MOUNTED CIRCUIT BOARD "SG-38" (EK)
C1	1-163-021-00	CERAMIC CHIP 0.01 10% 50V
C2	1-163-021-00	CERAMIC CHIP 0.01 10% 50V
C3	1-163-021-00	CERAMIC CHIP 0.01 10% 50V
C4	1-163-021-00	CERAMIC CHIP 0.01 10% 50V
C5	1-163-101-00	CERAMIC CHIP 22PF 5% 50V (UC,J)
C5	1-163-099-00	CERAMIC CHIP 18PF 5% 50V (EK)
C6	1-163-021-00	CERAMIC CHIP 0.01 10% 50V
C7	1-163-111-00	CERAMIC CHIP 56PF 5% 50V (UC,J)
C7	1-163-107-00	CERAMIC CHIP 39PF 5% 50V (EK)
C8	1-163-021-00	CERAMIC CHIP 0.01 10% 50V
C9	1-163-021-00	CERAMIC CHIP 0.01 10% 50V
C10	1-163-255-00	CERAMIC CHIP 150PF 5% 50V (UC,J)
C10	1-163-141-00	CERAMIC CHIP 0.001 5% 50V (EK)
C11	1-163-021-00	CERAMIC CHIP 0.01 10% 50V
C12	1-131-380-00	TANTALUM 33 10% 10V
C13	1-131-380-00	TANTALUM 33 10% 10V
C14	1-131-380-00	TANTALUM 33 10% 10V
C15	1-131-380-00	TANTALUM 33 10% 10V
C16	1-131-380-00	TANTALUM 33 10% 10V
C17	1-124-139-00	ELECT 100 20% 10V
C18	1-131-380-00	TANTALUM 33 10% 10V
C19	1-131-380-00	TANTALUM 33 10% 10V
C20	1-123-617-00	ELECT 10 20% 16V
C21	1-131-380-00	TANTALUM 33 10% 10V
IC1	8-741-134-00	BX1340: SONY
IC2	8-741-133-70	BX1337: SONY
IC3	8-741-133-80	BX1338: SONY
IC4	8-741-133-91	BX1339A: SONY
IC5	8-759-907-81	SN74LS221NS: TI
L1	1-408-124-00	MICRO 39
L2	1-408-124-00	MICRO 39
L3	1-408-124-00	MICRO 39
L4	1-408-423-00	MICRO 150 (UC,J)
L4	1-408-123-00	MICRO 100 (EK)
L5	1-408-124-00	MICRO 39 (UC,J)
L5	1-408-123-00	MICRO 33 (EK)
L6	1-408-124-00	MICRO 39
L7	1-408-124-00	MICRO 39
L8	1-408-124-00	MICRO 39
R1	1-214-583-00	METAL 12K 1% 1/8W (UC,J)
R1	1-214-581-00	METAL 10K 1% 1/8W (EK)

Ref. No.	Part No.	Description

SG-110 BOARD

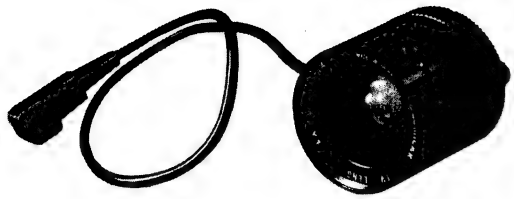
	A-7513-354-A	MOUNTED CIRCUIT BOARD "SG-110"
C1	1-163-038-00	CERAMIC CHIP 0.1 25V
C2	1-163-021-00	CERAMIC CHIP 0.01 10% 50V
C3	1-135-091-00	TANTALUM CHIP 1 10% 16V
C4	1-163-021-00	CERAMIC CHIP 0.01 10% 50V
C5	1-135-101-21	TANTALUM CHIP 22 10% 6.3V
C6	1-135-101-21	TANTALUM CHIP 22 10% 6.3V
C7	1-131-353-00	TANTALUM 10 10% 35V
C8	1-131-367-00	TANTALUM 22 10% 20V
C9	1-124-282-00	ELECT 22 20% 25V
C10	1-163-038-00	CERAMIC CHIP 0.1 25V
C11	1-124-248-00	ELECT 22 20% 35V
C12	1-124-248-00	ELECT 22 20% 35V
CN1	1-564-012-00	RECEPTACLE, 2P MALE
D1	8-719-100-89	RD24EB1
IC1	8-759-100-94	μPC358G2: NEC
IC2	8-759-100-94	μPC358G2: NEC
Q1	8-729-100-66	2SC1623
Q2	8-729-177-43	2SD774
Q3	8-729-100-66	2SC1623
Q4	8-729-201-78	2SD1406
R11	1-244-813-00	CARBON 3.3 5% 1/2W
R16	1-247-714-00	CARBON 1.2K 5% 1/4W
RV1	1-228-457-00	METAL 2K
L1	1-408-074-11	MICRO 56

Ref. No.	Part No.	Description
SW-34 BOARD		
	A-7513-355-A	MOUNTED CIRCUIT BOARD "SW-34"
C1	**1-163-021-00**	**CERAMIC CHIP 0.01 10% 50V**
C2	**1-131-379-00**	**TANTALUM 22 10% 10V**
C3	**1-131-377-00**	**TANTALUM 10 10% 10V**
C4	**1-131-385-00**	**TAMTALUM 22 10% 6.3V**
C5	**1-131-341-21**	**TAMTALUM 0.1 10% 35V**
CN1	1-564-007-00	RECEPTACLE, 8P
CN2	1-564-005-00	RECEPTACLE, 6P
D1	**8-719-800-33**	**TLG102A**
D2	**8-719-100-03**	**1S2835**
D3	**8-719-100-03**	**1S2835**
D4	**8-719-100-03**	**1S2835**
D5	**8-719-100-03**	**1S2835** (UC: DXC-102 S/N Up to 10180 / EK: DXC-102P S/N Up to 10310)
D6	**8-719-100-05**	**1S2837**
D7	**8-719-815-55**	**1S1555** (UC: DXC-102 S/N Up to 10180 / EK: DXC-102P S/N Up to 10310)
	8-719-100-05	**1S2837** (UC: DXC-102 S/N 10181 AND HIGHER / EK: DXC-102P S/N 10311 AND HIGHER)
D8	**8-719-815-55**	**1S1555** (UC: DXC-102 S/N Up to 10180 / EK: DXC-102P S/N Up to 10310)
	8-719-100-05	**1S2837** (UC: DXC-102 S/N 10181 AND HIGHER / EK: DXC-102P S/N 10311 AND HIGHER)
IC1	**8-759-200-90**	**TC4538BF: TOSHIBA**
Q1	**8-729-100-76**	**2SA812**
Q2	**8-729-100-76**	**2SA812**
Q3	**8-729-100-66**	**2SC1623**
Q4	**8-729-100-66**	**2SC1623**
Q5	**8-729-100-66**	**2SC1623**
Q6	**8-729-100-76**	**2SA812**
Q7	**8-729-100-76**	**2SA812** (UC: DXC-102 S/N Up to 10180 / EK: DXC-102P S/N Up to 10310)
Q8	**8-729-100-66**	**2SC1623**
Q9	**8-729-109-44**	**2SK94**

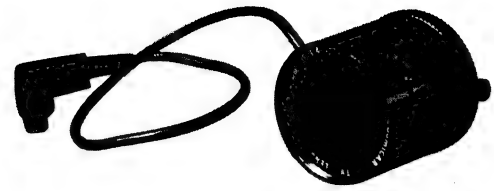
Ref. No.	Part No.	Description
R20	**1-247-861-11**	**CARBON 18K 5% 1/6W** (UC: DXC-102 S/N Up to 10180 / EK: DXC-102P S/N Up to 10310)
RV1	**1-224-940-00**	**METAL 10K**
RV2	**1-224-940-00**	**METAL 10K**
S1	**1-554-165-00**	**SLIDE**
S2	**1-553-856-00**	**KEY BOARD**
FRAME		
CN101	1-561-781-11	RECEPTACLE BNC "DCIN/VIDEO OUT"
CN102	1-563-113-11	RECEPTACLE "LENS"
CN103	1-561-781-11	RECEPTACLE "GENLOCK"
CN104	1-561-781-11	RECEPTACLE "REMOTE"
S101	**1-570-505-11**	**ROTARY "GAIN"**
S102	**1-570-505-11**	**ROTARY "WHITE BAL"**
C1	**1-102-106-21**	**CERAMIC 100PF 10% 50V**
C2	**1-102-106-21**	**CERAMIC 100PF 10% 50V**
C3	**1-102-106-21**	**CERAMIC 100PF 10% 50V**
FIXTURE		
	J-6080-058-A	LB-140 FILTER
	J-6029-590-A	LB-200 FILTER

AUTO IRIS LENS

VCL-08Y/16Y



VCL-08Y



VCL-16Y

SPECIFICATIONS

Mount	C-mount
Focal length	VCL-08Y: 8 mm (1/3 inches)
	VCL-16Y: 16 mm (5/8 inches)
Maximum aperture ratio	
	1:1.4
Iris range	F1.4 to F360 (effective value)
Auto iris range	30 to 100,000 lux
Minimum focus distance	
	VCL-08Y: 0.2 m (7 5/16 inches)
	VCL-16Y: 0.5 m (19 3/4 inches)
Image size	11 mm dia. (7/16 inches)
Front thread	43 mm dia., 0.75 mm-pitch
Power requirements	12 V DC
Operating temperature	
	0°C to 40°C (32°F to 104°F)
Dimensions	VCL-08Y:
	Approx. 46.5 mm dia. × 51.1 mm long
	(1 7/8 inches dia. × 2 1/8 inches)
	VCL-16Y:
	Approx. 46.5 mm dia. × 46.7 mm long
	(1 7/8 inches dia. × 1 7/8 inches)
Weight	VCL-08Y: Approx. 170 g (6 oz)
	VCL-16Y: Approx. 140 g (5 oz)
Accessories supplied	
	Lens cap (1)
	Dust cap (1)

SONY®

SERVICE MANUAL

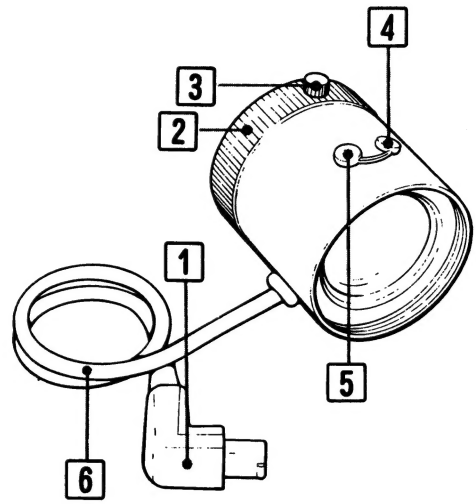
TABLE OF CONTENTS

SECTION 1
GENERAL DESCRIPTION

1-1. PARTS IDENTIFICATION

(See illustration [A].)

[A] Refer to "PARTS IDENTIFICATION".
Se reporter à "IDENTIFICATION DES ORGANES".
Siehe „BEZEICHNUNG DER TEILE".



[1] **Lens connector** (4-pin)
Connect to the LENS connector on the camera. The video camera sends a signal for automatic iris adjustment to the lens.

[2] **Focus ring** (See "FOCUSING".)

[3] **Focus ring fixing screw**
Fixes the focus ring after focusing. (See "FOCUSING".)

[4] **LEVEL adjustment control**
Adjusts the lens sensitivity. (See "SENSITIVITY ADJUSTMENT".)

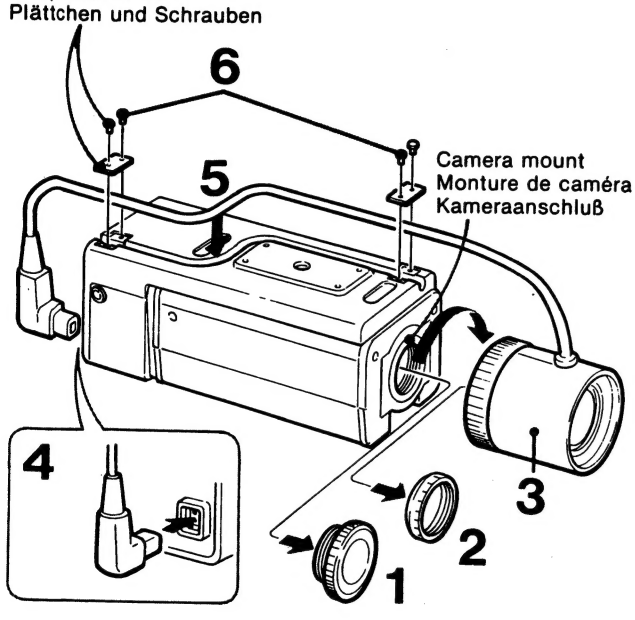
[5] **ALC (Automatic Light Control) adjustment control**
Determines the video signal level measuring system of the lens. (See "ALC ADJUSTMENT".)

[6] **Lens cord**

1-2. ATTACHING THE LENS TO THE CAMERA (See illustration B.)

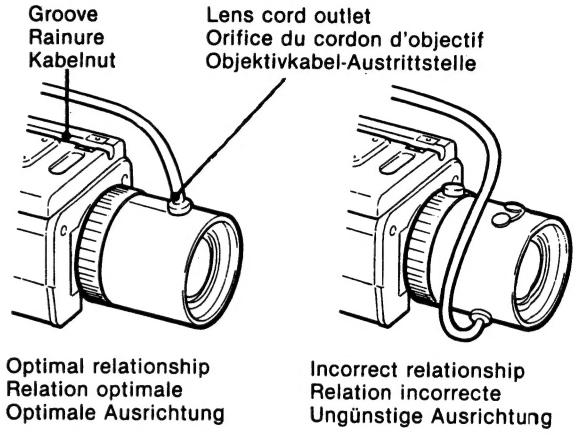
1 Remove the lens mount cap of the camera.
2 Remove the lens dust cap.
3 Align the lens with the camera's lens mount and secure it by turning it clockwise.
4 Connect the lens cord to the LENS connector of the camera. (If the lens mounting position is not appropriate for connecting, see "Adjustment of the lens mounting position" below.)
5 Thread the lens cord through the groove of the camera.
6 Fasten the lens cord with the plates and screws (supplied with the camera) (at two points on the DXC-101 series camera, and at three points on the DXC-102 series camera).

B



Adjustment of the lens mounting position (See illustration C.)
After the lens is attached to the camera (in step 3 above), if the relationship between the lens cord outlet and camera groove is not appropriate, make the following adjustment.

C



1 Unplug the lens cord from the camera, and loosen the lens by turning it counterclockwise one full rotation.
2 Turn the lens clockwise or counterclockwise to the desired position by pushing it toward the camera firmly to release the clutch inside the lens.
3 Tighten the lens by turning it clockwise without pushing it in.

If the lens is not fixed at the desired position, repeat the above steps 1 to 3. When it is fixed at the desired position, proceed to step 4 in "ATTACHING THE LENS TO THE CAMERA".

To remove the lens
Reverse the procedure described in "ATTACHING THE LENS TO THE CAMERA".

1-3. FOCUSING

1 Remove the lens cap and loosen the focus ring fixing screw.
2 Watch the monitor screen, and focus by adjusting the focus ring.
3 Tighten the focus ring fixing screw to fix the focus ring. The focus ring setting will remain stable, even if the camera is subjected to vibration.

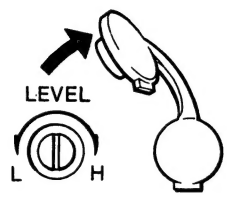
1-4. SENSITIVITY ADJUSTMENT

(See illustration D.)

Since the lens sensitivity has been adjusted at the factory, it is not necessary for you to readjust it. If the picture is too dark, however, or if the picture's highlights are extremely overexposed, remove the cap and adjust the LEVEL adjustment control with a screwdriver to improve the picture quality.

If the control is turned
toward L: The picture becomes darker.
toward H: The picture becomes brighter.

D

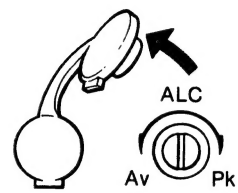


1-5. ALC ADJUSTMENT (See illustration E.)

The ALC adjustment control sets the reference signal level for auto iris control at a level within a range between the average brightness level of the entire image and the level of the brightest part of the image. Since the ALC adjustment has been preset at the factory, usually no further adjustment is required.
However, when shooting an image which includes a luminous body (such as a fluorescent lamp) that might cause an overexposed picture, remove the cap and adjust the ALC adjustment control as follows:

If the control is turned
toward Av: The picture becomes brighter and the picture's highlights become more overexposed.
toward Pk: The picture becomes darker and the picture's highlights become less overexposed.

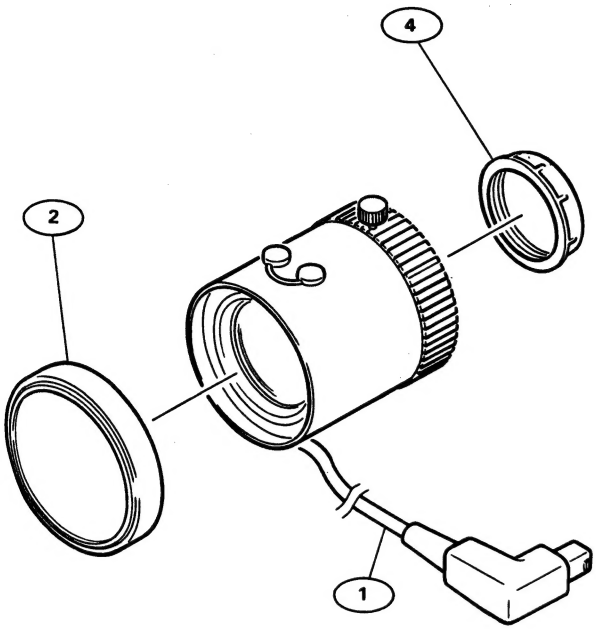
E



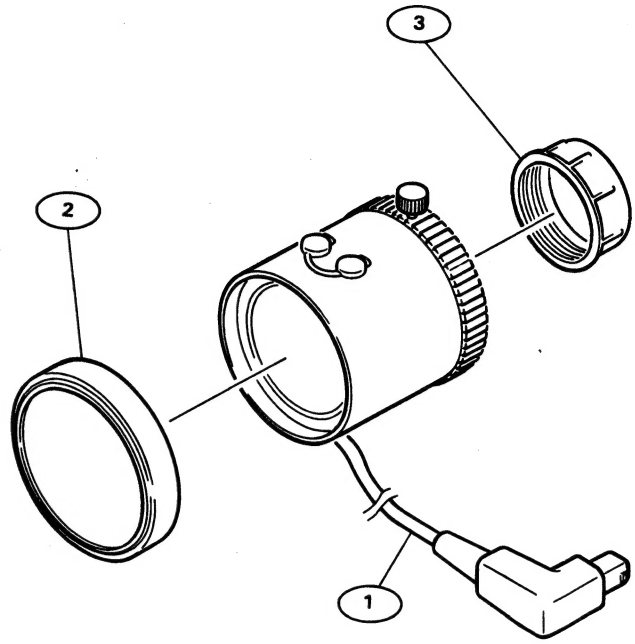
SECTION 2
SPARE PARTS

2-1. EXPLODED VIEW

VCL-08Y



VCL-16Y



No.	Parts No.	Description
1	1-558-489-11	CABLE WITH CONNECTOR
2	3-706-842-01	CAP, LENS
3	3-706-843-01	CAP, DUST (VCL-16Y)
4	3-707-254-01	CAP, DUST (VCL-08Y)

PACKING MATERIAL

3-760-960-02 MANUAL, INSTRUCTION (UC, EK)